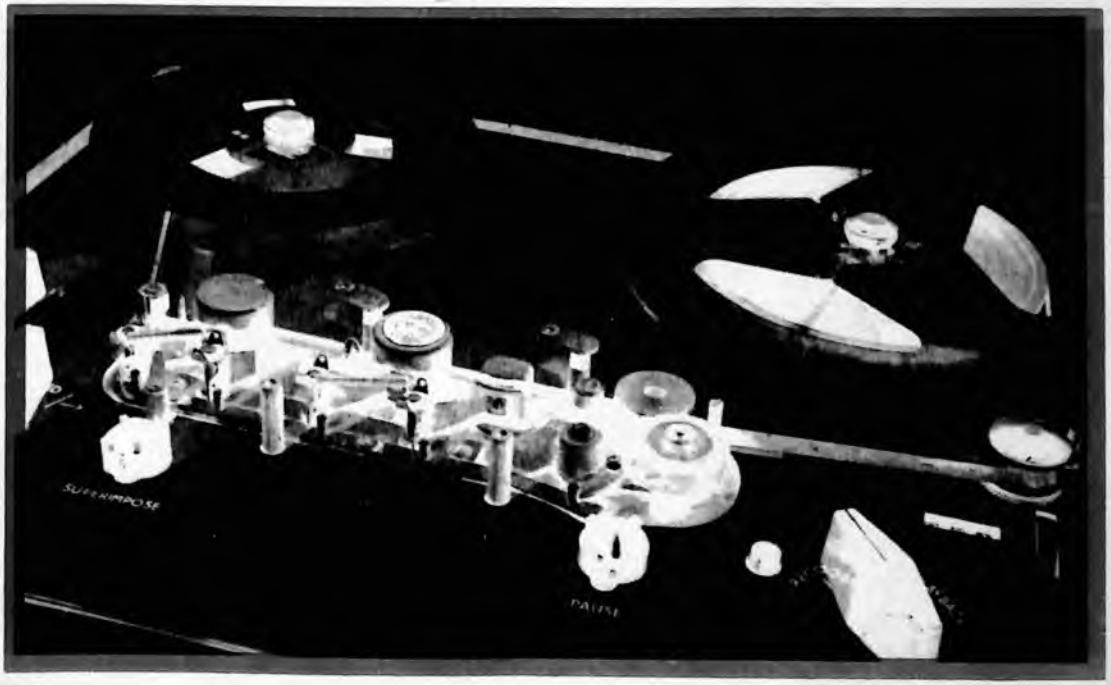
The Mediumship of the Tape Recorder



D. J. Ellis

The Mediumship of the Tape Recorder

a detailed examination of the (Jürgenson, Raudive) phenomenon of voice extras on tape recordings

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FOREWORD

Most people know that psychical research deals with all sorts of odd phenomena, from telepathy to 'things that go bump in the night'. For the purposes of the Perrott-Warrick Studentship, which provided financial support for the work described in this book, it concerns " the investigation of mental or physical phenomena which seem prima facie to suggest (a) the existence of supernormal powers of cognition or action in human beings in their present life, or (b) the existence of the human mind after bodily death ".

Psychical research may be considered a science if it is conducted in a scientific manner, but, unlike other sciences, there is such interest taken by non-specialists that accounts of its investigations must be written so as to be comprehensible to a general lay readership. Readers of this book may therefore be assured that technical discussion will be kept to a simple and straightforward minimum, and that use of specialist terminology will be sparing and accompanied by suitable explanation.

Two things perhaps need explanation before we start: the title of the book and the circumstances and considerations which led the author to undertake his studies.

A medium is popularly thought of as someone who can communicate with the dead. In psychical research one would normally be more cautious, and say that a medium is someone who purports, claims or appears to do so, or who seems to be the agent for certain inexplicable physical phenomena. However, in studying the voice phenomenon, we find that the person who makes the tape recordings on which the voices of the dead ('discarnate' agencies) allegedly can be heard usually takes care not to make any special claims about himself. He is, he says, only the experimenter - not a medium. If anything in his experimental set-up fulfils the function of a medium, he would prefer to think that it is not himself, but his tape recorder. So we come to study the mediumship of this device and to consider whether it is a 'genuine' medium, which would imply that the claims about it are true, or a fraudulent medium, deceiving those who use it into thinking that they are recording messages from the deceased whereas in reality they are doing no such thing.

In other branches of science it seems hardly necessary for the author of a report to explain why he undertook the studies described therein, except to indicate how they relate to other work and to what he was trying to discover or examine. No physicist would bother to explain why he was not a biologist; yet it seems that in psychical research one must give some account of how one became involved with this enigmatic field, and why one selected a particular problem for examination.

To be briefly - and informally - autobiographical, I studied Natural Sciences at Cambridge University from 1960-63, specializing in chemistry during my third year. I then worked for six years or so at Standard Telecommunication Laboratories in Harlow on various aspects of surface chemistry. Towards the end of this period I found myself somewhat dissatisfied with industrial research, and rather less interested in chemistry. With a view to conducting research on more challenging and fascinating topics, I began to explore the possibility of full-time work in psychical research, and became interested in the Perrott-Warrick Studentship. To apply for this one needed a project to study, and to plan and set out in detail how one intended to pursue it.

At about this time, reports about what were called 'Raudive Voices' were being published in England by the Scientific Research Committee of the Churches' Fellowship for Psychical and Spiritual Studies (C.F.P.S.S.). The chairman and secretary of this

committee encouraged me to tackle this topic and agreed to supply me with such information about their work as I needed. The reports indicated that work on the Continent had attracted considerable scientific support, which made it seem very promising, and in addition the whole topic looked coherent and tangible. So I drafted my plan of study and applied for the Studentship, and to my pleasant surprise my application was successful.

At this stage it would seem appropriate to offer some explanation of the structure of this book. One of the conditions of the Perrott-Warrick Studentship is that the Student should have a Supervisor with whom he is to keep in regular touch. I decided to produce written informal reports for this purpose, and have them printed to send to friends, colleagues and anyone else who was interested. As the work progressed, my circle of correspondents widened, so that the reports were eventually sent to some 250 readers in 13 countries. Although intended to be issued monthly, they soon became less regular, being compiled when appropriate and convenient. (The last three reports were written up some time after my tenure of the Studentship had expired and, mainly for financial reasons, were never circulated.) Hence we have an account of the research, written as the work was done and reflecting my contemporary attitude to the voice phenomenon.

The reports form the main part of the book, and I have added some further comments and explanation to link them together. The index, originally part of Report 23, has been expanded and moved to the end of the book, and a glossary has been added to explain some of the technical terms used. The account starts with a brief historical survey, followed by the outline plan of study prepared for the Studentship application.

* * * * *

None of the work described in this book would have been possible without the support of the Perrott-Warrick Studentship, which is gratefully acknowledged.

In addition, I should like to take this opportunity of expressing my deep gratitude to the late Dr. Konstantin Raudive for the time, patience, hospitality and help which he gave me, and for his continued friendship throughout my investigations.

I am much indebted to Mr. Manfred Cassirer for coming to the Continent with me twice, and to all the people whom we visited, for their time and hospitality; also of course to the many others in this country and the U.S.A. who have informed me of their results. I much appreciate their concurrence in being mentioned in my reports and subsequently in this book (as far as I know I wrote to everyone concerned, but I apologise to any who might inadvertently have been omitted). I am grateful, too, to Prof. Dr. Hans Bender, for encouragement and advice, and permission to translate his paper and to quote his results in my reports.

I am also indebted to Mr. Joel Honig for encouraging me to write this book and for reading the manuscript and suggesting a number of improvements; and to Dr. E. J. Dingwall, who has taken considerable interest in my work and made many helpful comments and suggestions. Mr. J. de Rivaz has helped considerably on the technical side, both with experiments and apparatus and by contributing the section on the superheterodyne receiver in Report 21.

Finally, I would like to thank all the readers of my reports for their interest in my work, especially those who generously contributed to the cost of their printing and distribution.

INTRODUCTION

In the years 1968 - 70, reports began to reach England of a new kind of psychical phenomenon, which had been the subject of much excited attention on the Continent. This was a physical effect concerning voices which had apparently appeared mysteriously on tape-recordings, and it had captured the imagination not only of Spiritualists and psychical researchers, but also of orthodox scientists: psychologists, physicists and electronics engineers. They had, it seemed, eliminated all the obvious explanations - fraud, natural causes, and so on - and were directing their attention in an international effort to improve the technological aspects of a direct link with the next world.

It would seem that Mr. Friedrich Jürgenson, a Swedish singer and film producer, first noticed faint extras on his recordings when he had been recording bird-song in the country in the summer of 1959. The first manifestation was a quiet male voice discussing nocturnal bird voices in Norwegian, which was followed by a series of cackling, whistling and splashing sounds, among which Mr. Jürgenson thought he recognized the note of a bittern. A few weeks later, he recorded a woman saying in German, 'Friedel, my little Friedel, can you hear me?' He recognized the voice of his mother, who had died four years earlier.

Although he wondered whether the first example might have been recorded by his tape recorder functioning as a radio receiver, he was impressed by the coincidence that it was so relevant to his own recordings. Moreover, the idea of a natural explanation faded as he began, with the second recording, to find voice extras constituting personal messages to himself. They were inaudible at the time of recording, but appeared on playback: the words were faint and he had to practise hard to hear and decipher them.

For a long time it was thought that the first intrusions were recorded more or less accidentally, but in an article published in 1973 ("Discovery of Voice Phenomenon was No Accident" *Psychical Researcher and Spiritualist Gazette* No.16 (October 1973)) Mr. Jürgenson revealed that he had made some preliminary experiments in the autumn of 1958, as the result of 'an overwhelming desire to establish electronic contact with something or someone unknown'. However, this is not to say that the extras on the bird-song recordings were not accidentally recorded.

Mr. Jürgenson continued his experiments - including a number in the presence of witnesses - and published a book about them in 1964. Besides using the tape recorder with a microphone, he had developed a method of making recordings from a radio. Tuning to the right wavelength was effected with the help of a 'guide' called Lena: he turned the dial and she whispered 'Now' at the appropriate point. (Presumably he could hear her voice among the other sounds on his radio.)

Such was the state of the voice phenomenon when Dr. Konstantin Raudive, who was then living in Uppsala, read Jürgenson's book and visited him for further information. Dr. Raudive was much impressed by Jürgenson's tapes, and by a recording made in his presence. After further experiments with Jürgenson, he decided to start his own experiments - to isolate the phenomenon from Jürgenson's personality and to see whether it was able to manifest itself on tape quite independently, regardless of persons. If so, he would be prepared to regard it as objective.

Three months passed before he heard his first voice, a whispered answer to his observation that, like us, the inhabitants of the next world might have to contend with certain limitations. It had a definite, steady rhythm, and the Latvian words, 'Pareizi tā būs' ('That is correct') could be made out. After he had acquired

further experience, he listened to his early tapes again, and found that there were in fact a number of voices on them. Thus encouraged, Dr. Raudive began to amass a large number of voice recordings. He used the microphone and radio methods, tuning his radio to the 'white noise' between stations. He believed he could separate the voices from fragments of normal transmissions on the basis of their characteristics (mentioned below) - their rhythm, use of Latvian and grammatical distortion and their relevant comments. Near the end of 1967, Prof. Dipl.-Ing.ETH Alex Schneider, a Swiss lecturer in physics, read an article about Mr. Jürgenson's work which also mentioned Dr. Raudive. He wrote to him, and visited him early in 1968. Together they developed two further methods of recording voices, the 'diode' and the 'auto-transmission' methods.

Dr. Raudive's first book on the voices was published in 1968; by then he claimed to have recorded some 70,000 examples of voice phrases. Another scientist to read an article and visit Dr. Raudive was Hochfrequenz.Ing. Theodor Rudolph, of Telefunken Ltd., Ulm. Ing. Rudolph tried all the recording methods available and then developed a device of his own, which he called a 'Goniometer'. As news of Dr. Raudive's work spread, more and more people began experimenting and making their own recordings. Mrs. Hanna Buschbeck, of Horb, started a newsletter in 1969 to keep in touch with some of them and exchange ideas. Ing. Franz Seidl, of Vienna, built his own voice receiving device, the 'Psychofon'. (In 1971 it was offered for sale to the public, and Mr. Seidl published a slim volume on the voices.)

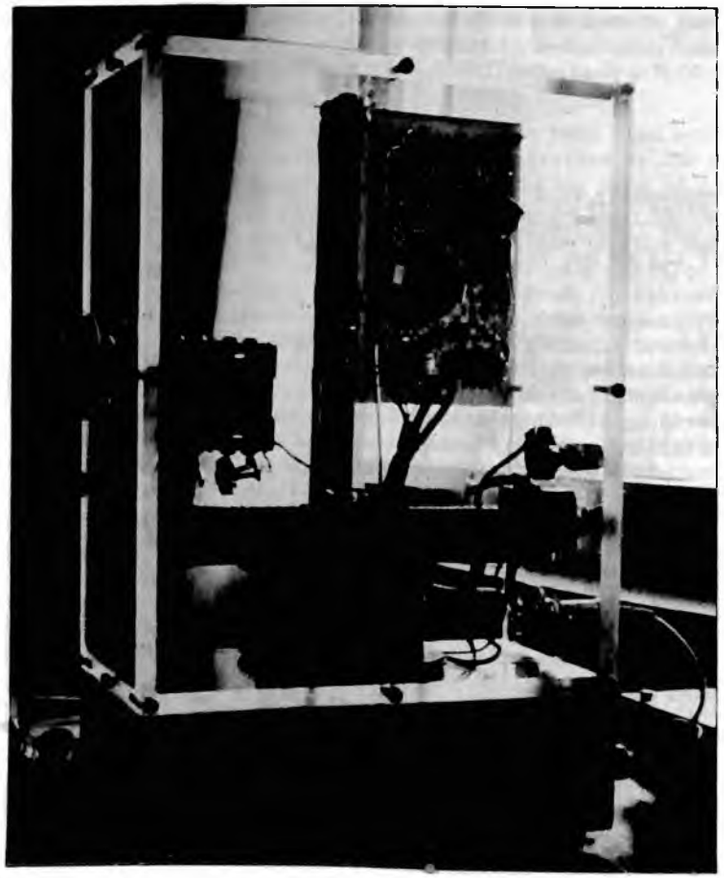
The first reasonably full account to appear in English was an article by Mr. H. V. Bearman, published simultaneously in *Light* and the *CFPSS Quarterly Review*. Mr. Bearman quoted some of the messages received, and suggested that if they came from discarnate spirits, then the communicators were 'of a low order'. But while 'many of the thousands of short sentences ... are trivial, inconsequential or nonsensical', 'others are such as to convince Dr. Raudive ... that *he* is being addressed, that he can identify some of the speakers and that he has been correctly informed of matter unknown to him'. The suggestion that 'the mind of the listener might fashion the sounds into words in the manner of Dick Whittington's hearing Bow Bells' was countered by the statement that Prof. Dr. Hans Bender had marked a number of phrases as sufficiently clear for it not to be doubted that they were clearly articulated words. Once again it was emphasized that Dr. Raudive, the chief experimenter, was supported and assisted by scientists: 'parapsychologists, physicists and electronics experts in Germany, Austria, Sweden, Latvia and Israel, and he declares that his research has been on a firm scientific basis and the voice phenomenon is an established fact.'

From the reports available, the following description of the phenomenon emerged. "Originally discovered by accident by someone recording bird-song, the voices appear as extras when tape recordings made under normal conditions are played back. They are very faint and difficult to distinguish from the background noise. Tapes thought to be blank have later been found to contain voice phrases. According to Dr. Raudive it may take up to three months to train the ear to detect them. The most unique feature of the voice phrases is their 'polyglot' composition. Even short sentences are made up of words from several languages, put together so that the whole makes sense, although the grammar leaves something to be desired. It is interesting to note that the languages used, Swedish, German, Russian, Latvian, Spanish, French and English, are all to some degree within Dr. Raudive's compass. A related characteristic is the rhythmic quality of the words, which dominates the construction of sentences, words being compressed, arbitrarily shortened or used with ungrammatical endings to conform to it."

The Mediumship of the Tape Recorder

In October 1969, at the Frankfurt Book Fair, the young English publisher, Colin Smythe, was handed a copy of Dr. Raudive's book. He brought it home, and his German-speaking partner, Peter Bander, browsed through it idly. Mr. Bander noted, to his surprise, that Dr. Raudive's work was endorsed by such eminent scholars as Prof. Gebhard Frei and Prof. Dr. Hans Bender, and decided to invite him to come to England and demonstrate the phenomenon to a group of selected witnesses. The success of this visit led to the publication of an English translation, *Breakthrough*, in March 1971.

The publication was attended by further experiments, and considerable publicity. Mr. Bander made a large number of radio and television broadcasts, and stated that some of the most eminent scientists on the Continent had carried out extensive tests to establish the validity of the phenomenon. Thus interest was generated in England, and people began making their own recordings, while others listened carefully to their tapes of sittings with mediums for 'extra' voices. The voice phenomenon had arrived. Dr. Raudive continued his work, and published a second book in 1973.



The Goniometer designed by Ing. Theodor Rudolph

PLANS FOR STUDY

Investigations in psychical research fall into two main categories: the anecdotal and the experimental. Anecdotal studies include historical research and the collection and verification of spontaneous cases (apparitions, dreams which seem to foretell the future, premonitions, instances of apparent telepathic communication, and so on). Experimental work again has two sides - the testing of ordinary people for such supposed faculties as extra-sensory perception, precognition and psychokinesis (direct action of the mind on material objects), and the investigation of phenomena, such as poltergeist disturbances, which are said to occur repeatedly, or of persons who make special claims about themselves, such as mediums and clairvoyants.

It was possible that the voice phenomenon, if validated, represented a faculty which, if tested and statistically evaluated, might be shown to be present in most people. But it seemed more likely that there was some particular connection between Mr. JÜrgenson, Dr. Raudive and other experimenters, and the results they had achieved. Accordingly, the first step in the investigation was a close examination of these results, and the following plan of study was drawn up from the information available and included in the Studentship application.

A General Appraisal and Suggested Lines of Attack.

Various alternative hypotheses which might account for the voices and experiments which might help to distinguish between them.

1. Hypothesis: Phenomenon fraudulently produced.

   For: (i) This is a strange phenomenon, which has only recently been discovered, although tape recordings of bird songs have been made for some years, and explanations of it involving PK or manipulation of tapes by spirits are rather hard to accept.

   (ii) It is much easier to fake tapes than either photographs or séance-room phenomena.

   Against: (i) The voices are very faint and may easily have escaped earlier detection. If they are indeed from discarnate spirits, they may have only recently discovered the technique or tried it. Again, a medium may be necessary and perhaps mediums do not often record bird song.

   (ii) Integrity of Dr. Raudive. He himself did not discover the phenomenon, but heard of it from someone else, who apparently discovered it by accident.

   (iii) Independent witnesses have visited Dr. Raudive and watched and helped him in his work.

   Experimental: (i) Visit Dr. Raudive and watch him at work.

   (ii) Let Dr. Raudive visit experimenter, who will inspect and supply all equipment.

   (iii) Obtain voices on tape independently of Dr. Raudive.

2. Hypothesis: Voices spurious.
   (a) tape recorder picks up radio signals
   (b) microphone picks up distant voices
   (c) voices left on tape from a previous recording

For: (i) Voices very weak.
(ii) Most acceptable explanation after fraud.

Against: (i) Polyglot composition of sentences.
(ii) Relevance of phrases and sentences recorded to the room and to Dr. Raudive (e.g. "Good evening with you, I wish to drink of your wine" referring to a glass of wine that he was drinking while making the recording).

Experimental: (i) Use a good radio receiver to scan all channels (easier said than done!) in another room while recordings are being made, to see whether anything similar is being broadcast.
(ii) Make microphone recordings in a sound-proof room.
(iii) Always use tapes whose history is known or, preferably, new tapes.

3. Hypothesis: Not voices at all.

For: (i) Rhythm may be due to extraneous noise, for example from the tape recorder, or people breathing.
(ii) The polyglot composition of the phrases makes them particularly suspect, as it is easier to make a nondescript sound into a word if one has the greater vocabulary of a number of languages to choose from. Similarly it is easier to make it all make sense.
(iii) Information received which it is claimed was unknown to Dr. Raudive may have been chance coincidence.

Against: (i) It is improbable that Dr. Raudive would have worked for three years on what amounts to no more than a delusion.
(ii) Other experts have helped and participated in his experiments. Were they also deluded?
(iii) The information obtained, unknown to those present but subsequently found to be correct, may not be attributable to chance coincidence.

Experimental: (i) Reduce or eliminate background sounds by working in a sound-proof room, possibly with the tape recorder itself outside.
(ii) Improve electronics to reduce circuit noise.
(iii) Prepare a tape with various indistinct noises on it and submit it to Dr. Raudive. See if he is able to detect voice phrases on it.

4. Hypothesis: Voices genuine, *but* a product of Dr. Raudive's subconscious, and
(a) transferred to the tape by some form of psychokinesis (PK)
(b) Dr. Raudive mutters under his breath and the others in the room don't notice.

Experimental: (i) Use two microphones to prepare a stereo recording, which may help determine the approximate location of the origin of the sounds.
(ii) Gag Dr. Raudive! Or watch him closely during experiments.
(iii) Examine scripts for information of which Dr. Raudive was not at the time aware. This is obviously very difficult if one is not familiar with Dr. Raudive's affairs, and it would be necessary to rely for the most part on Dr. Raudive's own testimony. There is always the possibility that information obtained might somehow have been acquired by Dr. Raudive clairvoyantly or by precognition.
(iv) Put microphone (or one of two) inside a sound-proof box. Are voices still recorded?

5. Hypothesis: Voices genuine.
(a) from the living by a combination of telepathy and PK.
(b) from discarnate spirits.

In either case, Dr. Raudive may function as a medium, and his mediumship may be either
(a) physical/psychokinetic
or (b) some weak form of 'direct voice' mediumship.

Experimental: (i) Can voices be recorded (a) when Dr. Raudive is not present? (b) in a sound-proof room when no one is present?
(ii) Does the presence of a physical medium help?
(iii) Does the predominant language depend (a) on the country where the work is done? (b) on the languages spoken by the person being used as the medium?
(iv) Does a trumpet or other simple sound amplifier near the microphone help?
(v) Are better recordings secured in the dark or subdued light?

B Tests to Determine How the Voices (if paranormal) were Transferred to the Tape.

The voices may be transmitted:

1. Through the microphone as low level (subliminal) sounds, or by manipulation of the moving parts of the microphone.

Experimental: (i) Is a microphone necessary?
(ii) Do the recordings vary with the type or quality of the microphone?
(iii) Use two microphones to make a stereo recording; is the same signal received on each track, with the microphones (a) close together? (b) far apart?

2. Directly into the electronic circuitry of the tape recorder.

Experimental: (i) - (iii) as for 1.
(iv) Try a simple aerial instead of the microphone.
(v) Put the tape recorder in a Faraday cage (or screened enclosure).
(vi) Put the tape recorder outside the room and only the microphone(s) inside.
(vii) Put Dr. Raudive in a Faraday cage (or screened enclosure).

(N.B. It has been reported that Dr. Raudive has tried (v) and/or (vi) and that no voices were obtained. However, Mr. Bearman (private communication) states that the Faraday cage used was Dr. Raudive's motor car, which might have affected the conditions in some other way.)

3. Direct to tape head.

Experimental: (i) Disconnect tape head.
(ii) Remove tape head altogether.
Hard to distinguish from:

4. Direct onto tape.

Experimental: (i) Run tape through recorder at zero recording level or on PLAY.
(ii) Examine tapes at different times to see if voices appear. Note Dr. Raudive's observation that tapes thought originally to be blank were later found to contain voices. This may be because the voices, being faint, were missed the first time, or, perhaps, they had been put on the tape subsequent to, or during, the first playing.

C General.

The proposed study included finding out as much as possible about the current state of Dr. Raudive's work, reading his book, visiting him and so on. Co-operation and exchange of information with other workers was also considered important.

WORK BEGINS

Tenure of the Perrott-Warrick Studentship does not confer membership either of Trinity College or of Cambridge University. The fund is merely administered by Trinity College and the holder receives a modest maintenance grant and reasonable research expenses: he must make his own arrangements regarding where and how he is to work.

Mr. Bearman introduced me to Mr. R. T. Lovelock, another member of his committee and Technical Director of Belling & Lee, Ltd. Mr. Lovelock offered help and advice on the technical side of my work, and said that he would be able to arrange for me to use his firm's radio-frequency screened enclosure for recording experiments. Mr. A. H. Reeves, of Standard Telecommunication Laboratories, Ltd., said that he thought I would be able to use their anechoic (sound-proof) rooms.

I also made the acquaintance of Mr. Manfred Cassirer, a member of the Society for Psychical Research who was interested in the voice phenomenon. He was more cautious about the voices than Mr. Bearman, but agreed that they were worthy of further study.

Mr. Peter Andreas (pseudonym), who had helped Mr. Bearman with his articles on the voices, supplied useful background information and gave me a personal introduction to Dr. Raudive. He advised me to attend a conference in Austria in September at which the voices would be discussed, so I wrote to Prof. DDr. Andreas Resch, Secretary of IMAGO MUNDI, who were organizing the conference, to say that I would like to attend, and to Dr. Raudive to say that I hoped to meet him at the conference and visit him afterwards.

Dr. Raudive's reply provided an encouraging start to this first Continental expedition. "I shall be delighted to co-operate with you," he wrote, "and to introduce you in a matter-of-fact way into the world of these para-voices ..."

Report 1 covers the initial stages of the work. As some of the opening paragraphs are devoted to an introduction to the voice phenomenon and to an explanatory note about the Studentship, which matters have already been dealt with in somewhat more detail, they are omitted to avoid unnecessary repetition.

REPORT 1 up to 31st October 1970

Preface.

This is the first of a series of monthly progress reports, intended primarily for my Supervisor, Mr. J. H. Cutten (Secretary, S.P.R. London), but also circulated privately to a number of friends who have said that they would be interested to hear about my work. For this reason this month's report starts with a brief introduction to the phenomenon being studied.

Before the reader dismisses the phenomenon as probably spurious and therefore not worthy of attention, the following points should be considered:

1. Fraud is unlikely: Dr. Raudive did not discover the phenomenon himself, but heard of it from someone else, who apparently discovered it by accident. Far from

making any money out of his researches, Dr. Raudive has spent a lot of time and money on them. Independent witnesses have visited him and have watched and helped him in his work.

2. The most frequently advanced "explanation" is that the tape recorder picks up stray radio signals - or snatches of programmes - which are rather indistinct and therefore not recognised as such. Early experiments were made with microphone input to the tape recorder; then it was found that a diode connected across the input gave better results, and later experiments have been made with various aerials, demodulators and so on. There is no doubt that radio signals are recorded: what is in question is whether the voices heard are simply part of these signals or are something extra superimposed on them. The substance of the voices is the best answer to the radio-signal theory. For, as mentioned above, many of them contain words from several languages in the same phrase or sentence, yet make sense on translation into a coherent whole. Further, Latvian is not used in radio broadcasts, so if amateur radio is excluded it is unlikely to be received, yet many of the communications are in Latvian or contain Latvian words. Finally, a number of the voice phrases are relevant to the experimenter, telling him about his deceased friends or answering questions put by people present.

3. Another popular idea is that the voices are simply nondescript sounds to which the experimenter fits words. Some of them are indeed very hard to hear or distinguish. But others are so clear that there can be no mistaking them.

Progress So Far.

1. Visit to IMAGO MUNDI Conference.

This conference, ***Welt, Mensch und Wissenschaft morgen*** (World, Man and Science tomorrow), was held at Puchberg near Wels, Austria, from 17th - 20th September. Papers were read on social problems, psychology, modern physics, molecular biology, and an afternoon session was devoted to the voice phenomena. I don't know a lot about IMAGO MUNDI, except that it used to be called the 'International Society of Catholic Parapsychologists'. The conference was well organised and the proceedings are to be published.

I purchased a portable tape recorder in Linz and recorded all the papers and discussion relating to the voices. Four papers were presented, by Dr. Raudive himself, Prof. Schneider (electronics expert from St. Gallen, Switzerland), High-frequency engineer Th. Rudolph (Telefunken, Ulm), and Electronic engineer F. Seidl (Vienna). There was no time for questions immediately after the presentations so a separate session was held later in the evening.

While at the congress I met a young German electronic engineer, Herr Hubert Gossner, who is very interested in the voice phenomena and played me some recordings (which I copied) of voices obtained by Frau Hanna Buschbeck. I had heard that Frau Buschbeck acted as a 'clearing-house' for everyone in Germany who thought they had recorded paranormal voices, but did not know that she had had any herself. Apparently she first obtained them about a year ago, after six months' unsuccessful attempts.

2. Visit to Dr. Raudive.

After the congress my friend, Mr. R. W. J. Uffen, who had come with me out of interest and for the holiday, and I visited Dr. Raudive at Bad Krozingen.

At our first session we heard samples of the voices, and took part in a hearing test. For this we had to listen to various voice phrases and rate them as very good, good or not so good. Comparing our papers afterwards revealed a large measure of agreement. Of the 30 - 40 (?) phrases we had rated about 5 - 6 as 'very good',

meaning that we would have known what was said even without being told first. There were also a number of 'good' ones - you could recognise them *after* being told.

We returned later in the evening for a recording session, and in fact were the first English people to have been present at such a session in Bad Krozingen. Dr. Raudive started the tape with details of the date, time, place and names of those present, and my friend and I were each asked to say something and state from whom we wanted to hear. The tape recorder was then connected to the 'Goniometer', and the latter to a 'Faraday aerial' for the first part, a second recording being made from a radio by the 'Interfrequenz' method (tuning to the 'white noise' between two stations). The actual recording lasted about five to ten minutes. Then we listened to the tape - Dr. Raudive using earphones - and the first voice was spotted near the end of the introduction, i.e. while the microphone was being used. Some voices were almost inaudible above the background noise, or little more than faint squeaks, but one or two were quite startling in their loudness and clarity. For each, Dr. Raudive played the tape four or five times to establish what was said, and wrote it down, together with the tape index.

We called again the following afternoon for an analysis session. On a second tape recorder a verbal note was made of the original tape index, what Dr. Raudive interpreted the voice to say, a translation into German and then "attention, please!" followed by the actual voice phrase repeated four or five times. In listening to the tape this second time Dr. Raudive often changed his interpretation. A second note book records these interpretations and other details. Dr. Raudive had made another recording after we had gone home (at about 1.0 a.m.). We listened to this as well. There were some good voices on it.

I called again the following evening for more discussions. Apparently after the analysis session is a further session in which half a dozen people listen to the voices to see if they all agree about what they say. At Dr. Raudive's suggestion I supplied a tape and he very kindly copied onto it some of the Puchberg papers and a good selection of voices (from the recording sessions mentioned and other recent ones) for me to take home. In all he was most friendly, hospitable and helpful. He referred to me in his paper at Puchberg as a co-worker, and at Bad Krozingen went out of his way to give me a thorough introduction to the subject. Even the voices were on my side, for, ten days before I wrote to him in August, a voice said, 'Ellis patik', meaning 'Mr. Ellis is agreeable (pleasant)',and it wasn't until I wrote that Dr. Raudive realized who Ellis was....

Dr. Raudive is a writer, psychologist and parapsychologist, and has been studying post-mortem manifestations for 25 years. From the above it will be clear that he is extremely methodical and careful in examining his recordings. It was not possible, however, to discuss the technical aspects in any detail. It seems that Dr. Raudive leaves these to his collaborators, Prof. Schneider, who lives in Switzerland, and Engineer Rudolph of Ulm, near Munich. They supply various pieces of apparatus: goniometer, Faraday aerial, etc., and Dr. Raudive 'plugs in' to them without much understanding of their function. The tape recorders used are Telefunken 2-track machines with two speeds, $3\frac{3}{4}$ i.p.s and $7\frac{1}{2}$ i.p.s., the former being the only speed used when we were there, and recordings are made on brand new BASF tapes. I asked whether they had tried any of the recording techniques simultaneously, and Dr. Raudive replied that on one occasion they had had four tape recorders going, with different input devices, and had obtained the same voices on each. This is quite a significant experiment and further details would be desirable.

3. Since Returning to England.

I lent my tape recordings to my friend, Mr. Peter Andreas (pseudonym), who listened to them and made some notes for me. A few extracts follow:

(a) Prof. Dipl.-Ing.ETH Alex Schneider, St. Gallen.

It makes no difference what type of radio or tape recorder you use. *Possibly* transistor radios might yield somewhat better results than valve radios.

He does not believe that the voices are produced by some telekinetic process at the microphone input point.

Voices actually protest when you suddenly change the recording method.

(b) Hochfrequenz-Ing. Theodor Rudolph, Telefunken, Ulm.

He believes that with normal amplification methods we shall not get better voices than at the present time.

He explains his 'Goniometer'. On being asked, other side told him he will need ten years to perfect his apparatus. He is building it entirely from his own resources and this takes time.

He has recorded many voices himself. To everyone's surprise a lot of these were in Latvian - a language with which he is not familiar.

(c) Electronik-Ing. Franz Seidl, Vienna.

He has developed a recording mechanism which he calls a 'Psychofon'. It has a very wide frequency range combined with a very great amplification factor. Voice entities are offered a source of energy, i.e. a carrier frequency for modulation. It is so effective that they could even hear some voices on the loudspeaker *while recording* (otherwise impossible). In later stages the 'psychofon' was improved by so-called 'fading automatic', improving amplification once again.

It then occurred to Seidl and Schneider almost simultaneously that research should, if possible, extend into light frequency ranges as well. There is no reason to suppose that entities are limited to short, medium or ultra-short radio waves. This led to the idea to build an infra-red apparatus and connect it to the psychofon. Entities are offered incoherent light for modulation. This is then picked up by a photo-cell, and the current sent through the numerous amplification stages of the psychofon (now called 'Ultrafon') until it can activate a loudspeaker or magnetic tape.

I have written to Prof. Resch, the Secretary of IMAGO MUNDI, saying that I would be interested in purchasing a copy of the Puchberg proceedings.

Programme for Further Work.

On the technical side of Dr. Raudive's work it is necessary to write to Prof. Schneider and Eng. Rudolph for information, and circuit diagrams if possible, of the various input devices used. Dr. Raudive has already lent me a circuit diagram and details of the psychofon.

However, as recordings have been made by a variety of methods, it is possible that the actual device used is not very critical. Mr. A. H. Reeves (STL, Harlow) has suggested that as noise is always present in the recordings it may be an essential ingredient, and the voices may be produced by some sort of modulation or 'de-randomization' of this noise. It is therefore possible that a simple audio-frequency noise generator may provide a suitable input signal. The advantage of this arrangement is that if the noise generator were battery-operated, and a portable tape recorder used, the whole system could be placed inside a metal box, which would cut out most radio waves (and could be calibrated for attenuation against frequency before use). If results cannot be obtained in England, such a device could be taken to Dr. Raudive to see if he could obtain voices with it.

Once the voices have been obtained, little seems to have been done to improve their quality. There is therefore scope for work here. If you need acute hearing and have to listen to a recorded voice with earphones four or five times to make it out, communication could hardly be called efficient.

Finally, it will be obvious that I need to be able to speak and understand a reasonable amount of German. Dr. Raudive speaks English quite well, but is reluctant to do so. Many of the other workers in the field are German or German-speaking. It would also be a great advantage to be able to listen to the Puchberg tapes myself.

Dr. Raudive's book will be published in English by Colin Smythe within the next few months. I have asked for permission to study the proofs as soon as they are available.

11th November 1970

REPORT 2

1st November 1970 to 13th January 1971

Preliminary.

Having undertaken to produce monthly reports, perhaps I should explain why this one covers just over two months and finishes on the rather arbitrary 13th January. It has been a period of correspondence: gathering further information about the voice phenomena, particularly the technical and experimental aspects, and as such formed a fairly coherent second stage to the research. It seemed reasonable to delay reporting that a number of letters had been written until such time as the answers were also available for comment. Gathering information is always rather a slow process, even when, as in my case, one's correspondents are very helpful. The date was chosen for two reasons: on 14th January a diary was started, so it was desirable to collect and sort out all the work done before then, and on 14th January I visited Colin Smythe Ltd., and was given a copy of the proofs of the English edition of Dr. Raudive's book.

This is called *Breakthrough: An Amazing Experiment in Electronic Communication with the Dead.* It will be published by Colin Smythe on 29th March. A leaflet about it is enclosed with this report. Report 3 will be concerned solely with the book, and experimental work now in hand will be described in Reports 4 & 5. Under an agreement with Colin Smythe Ltd., these reports will not be distributed until after the publication date.

Further Progress.

1. Correspondence.

The reaction to Report 1 was very pleasing, particularly as it was intended as little more than an introduction to the subject. My Supervisor, Mr. Cutten, suggested that if I adopt at different times the viewpoints of the Spiritualist and of the sceptic who rejects Spiritualism, I would be less likely to miss possible alternative explanations. (I think I do this in that there is a wide divergence between what I am able to believe as possible, and what I am prepared to accept as proven.) Dr. Raudive thanked me for describing my visit to Bad Krozingen and the whole phenomenon in an objective way. Reading my report he sensed a sort of distance from himself, but could see what an intelligent man could understand about his research and its problems. He asked for five extra copies and added fifteen names to my circulation list.

Having heard that Mr. Colin Smythe's interest in the subject was more than that of a publisher towards another book, and that he was even doing his own experiments, I wrote to him suggesting a meeting. For various reasons - office rearrangements,

the electricity go-slow delaying the proofs - this was not held until 14th January, when Mr. Bearman and I spent a very pleasant day at Gerrards Cross, meeting the directors of Colin Smythe Ltd., and the editor and the translator of the book.

In reply to my query about the Congress proceedings, Prof. DDr. Andreas Resch, Secretary of IMAGO MUNDI, said that these would probably be published next June. He added that he was very glad that I was getting involved with this topic, and hoped that he himself could spend some time studying it with Dr. Raudive in the early part of 1971.

I asked Prof. Dipl.-Ing. ETH Alex Schneider (Swiss physicist and electronics engineer who has assisted Dr. Raudive) for details of the 'diode' and 'inter-frequenz' recording methods, and (1) whether they had tried using more than one recording method simultaneously (e.g. Dr. Raudive had mentioned an experiment with four tape recorders which had apparently received the same voice phrases), (2) whether they had tried using two radios tuned to the same frequency and recording separately but simultaneously in different rooms, and (3) whether any progress had been made in improving the quality of the voices received. Details of Prof. Schneider's comprehensive reply will be found in Section 2 below.

I also wrote to Ing. Theodor Rudolph (High-frequency electronics engineer, Telefunken, Ulm) for details of his voice-recording apparatus, which he calls a 'Goniometer'. He promised to reply in the New Year, when he had a little more time, as he wanted to answer my queries as fully as possible.

I only just missed seeing Prof. Hans Bender (Professor of Parapsychology, Freiburg) when I visited Dr. Raudive in September. He had been in the U.S.A. and wrote saying that he would be pleased to see me in Freiburg. He and his colleagues had done some interesting work with Mr. Friedrich Jürgenson, examining the recordings with the 'Voice-Print Method', in order to show without objection that the voices were physically inexplicable. (Exploratory results will be published in the next issue of *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie.*)

Herr Hubert Goßner (Langenhaslach, Germany) wrote to me in January saying that Frau Hanna Buschbeck was studying a tape of Ing. Franz Seidl's 'psychofon' voices, and that an Austrian professor had built some technical systems to stabilize and raise the level of the voices: Frau Buschbeck would visit him as soon as possible. Herr Goßner hoped to visit Frau Buschbeck in February or March and would write again after his visit.

Mr. Benson Herbert (Paraphysical Laboratory) enquired whether, as a simple control experiment, use of two radios recording at the same frequency various distances apart had been tried, and what steps had been taken to identify amateur radio stations at the frequency used.

2. Information Received.

First, some extracts from a lecture given by Dr. Raudive and of which he gave me a copy when I went to see him.

"About four years ago, in 1965, I came in contact with the voice phenomenon through statements made by the Baltic painter and singer, Friedrich Jürgenson. He claimed to have established contacts with the dead by tape recorder and radio. After lengthy studies and experiments I was able to determine that such voices can actually be heard. My research task became to isolate the phenomenon and to bring irrefutable proof of its actual existence. I was able to record and hear the first of these voices after three months of experiments.

"A clearly-heard sentence is a demonstrable fact. The short word groups and sentences bring us upon analysis to conclusions concerning the language used by the voices. Every word has an extended symbolic meaning that provides a clear cue to

the individual personality *behind* the verbal communication. The voice entities tell us that they communicate with us telepathically, that they have no language of their own but use the building blocks in the mind of the percipient agent, which would explain why the samples I have recorded are primarily in a mixture of Latvian, German and Russian.

"Concrete results obtained to date permit us to conclude that we are dealing here with extra-sensory entities. They act as independent personalities with evidential personality characteristics. Both acoustically and textually, the recordings provide extensive research materials. The most detailed analyses of the voice phenomena support the contention that they cannot be explained away by reference to the subconscious. There is a relationship no doubt between the voice phenomena and the mind of the experimenter, but it manifests itself objectively in acoustical and recordable form and demonstrates its independence and individual personality."

Prof. Schneider sent me a copy of the German text of the Appendix which he has written for *Breakthrough*. This will be dealt with in Report 3. Meanwhile, I quote from his letter.

"The 'Inter-frequenz' method is simply described: Raudive tunes his normal radio apparatus to a point between stations with white noise. (Chiefly in the region of 1500 KHz.) I myself have done few experiments. That is one of the reasons why no series of experiments exist. I refer you further to the place in my Puchberg manuscript where reference is made to the problem of experimental work. Certainly that entails some experiments with several tape recorders. A Swiss investigator intends to make recordings in different places at precisely the same time. However, that remains to be done!

"The idea of the noise generator is good, and as far as I know has not been tried up to now. In addition to this, I suggested in the Puchberg manuscript that an experiment be carried out with a noise generator in the relevant radio wave-band, also not only using broad-band reception but sending out a complete frequency spectrum (which can be modulated in turn with an A.F. noise generator). Otherwise there is not much to report. I am not thoroughly satisfied with the phenomenon concerning the quality and content of the voices, and you express the same feeling when you say that there is much scope for work here. It is not difficult to appreciate that a complete assessment of the voices requires new steps to be found!"

and from the two pages of his 'Puchberg manuscript' which he sent me:

"Experiments with Faraday cages would break real ground for the understanding of the signals collected. (By a Faraday cage I mean a screened room constructed either of sheet-metal or a close-meshed grid so that electromagnetic waves cannot penetrate it.)

"The phenomenon is extraordinarily reproducible. In each recording of a few minutes' duration Raudive receives about 100 voices, and already an increasing number of experimenters are obtaining similar paranormal voices on their tapes. (It is another question whether they are all able to analyse the voices and distinguish them from the usual radio noise.) It is not yet clear whether everyone can record voices or, in other words, what rôle the experimenter plays in the voice-recordings. In spite of the good reproducibility, however, the phenomenon does not seem to be amenable to manipulation. If it were true that the voice waves were continuous, and occurred without help from the investigator, he could develop optimum reception by suitably directed modifications of his equipment. The general content of the voices, as well as isolated phrases, show, however, that one is dealing with an autonomous 'other side', on whose cooperation the phenomenon is also dependent. It is necessary to reserve suitable times for making recordings, and not to expect an immediate reaction to changes in apparatus. Raudive has registered voices which have made

suggestions regarding changes in apparatus which were not fruitful, while others were welcomed. This makes experimental work difficult."

Although details of Ing. Franz Seidl's 'Psychofon' are available, they have yet to be translated. Further information is contained in the appendix to *Breakthrough*.

3. Other Sources of Voice Recordings.

It has been pointed out that Dr. Raudive is not alone in obtaining these voice recordings, as they were in fact discovered by Friedrich Jürgenson. It would therefore be worthwhile to follow up reports of any other people who claim to have similar recordings.

Accordingly I visited Mr. and Mrs. ---- in London on 14th December. In a tape recording of a sitting with the medium, Mrs. Trixie Allingham, between the words spoken by the medium, there appeared, in what sounded like a different voice, an extra word. Moreover, it seems that this word may have been the one which the communicator was at that moment unsuccessfully trying to express through the medium. Mr. ---- played a recording which was similar to what might have resulted if someone had handled the microphone, yet he assured me that the microphone had not been disturbed, and that only he had been in the room. These recordings, while not of the same scope or scale as Dr. Raudive's, are interesting and puzzling nonetheless.

Mr. Philip Rodgers, of Grindleford, Sheffield, has a large collection of recordings which he believes are derived from U.F.O.s. He was interested in these phenomena and fortunate enough to see and hear strange lights and sounds when walking on the moors. After a while it occurred to him to try and record some of these, and he succeeded at his first attempt. His normal method now is to place a microphone outside his bedroom window, which is then closed. I have arranged to visit him from 17th to 19th February, and hear and discuss his recordings.

4. Publicity.

Colin Smythe Ltd. sent some information about their forthcoming book, *Breakthrough*, to *The Daily Telegraph*, who published (on 30/12) a paragraph about it, headed 'Electronic Ghosts'. Mr. Neville Randall of the *Daily Sketch* read it and telephoned me. I explained that even my first six-monthly report was not due until April, but said that I had visited Dr. Raudive and could vouch that the voices were real, although I was not at present prepared to comment on their origin. I hoped to do some work in a screened room (which excludes radio waves). The next day (31/12) a half-page article, 'Well, do Ghosts Talk?', appeared in the *Daily Sketch*. The following Monday (4/1) I was invited to Norwich to give a short (5 mins) studio interview about the voices on Anglia Television. Everybody I met at the studios was very friendly and interested, and I was asked to keep in touch. One or two of the clearer voices were broadcast, and I answered questions about the voices and my work, probably appearing to be rather sceptical.

5. Apparatus.

The stereo amplifier is now built and working. It can be used for listening to tapes, e.g. with earphones, and the tone controls reduce the background noise a little.

The problem of adapting my tape recorder to record in stereo is more complicated than I expected, but not insoluble. I may build the complete stereo electronics in a screened box for connection direct to the tape heads.

The ease of picking up local short-wave radio messages, e.g. hospital cars, has been demonstrated several times during the assembly of the amplifier.

A friend has very kindly made me a simple audio-frequency noise generator, with controls to vary the quality of the noise.

Programme for Further Work.

1. Experimental Work.

This has already been started. Various recording methods - no input, noise generator, diode, microphone, etc., will be tried. As soon as recognisable voices of reasonable volume and clarity can be obtained, experiments will be conducted in a screened room (attenuation, including mains supply, 100 dB over the range 100 KHz to 10 GHz). If no voices can be obtained under these conditions, further work will be done on the electronics: for instance the generation of suitable "carrier" radio waves (with and without audio-frequency noise modulation).

The use, in a sound-proof room, of a sensitive microphone in a screened, but not sound-proof, box, coupled to a portable tape recorder in a screened box, might help to determine whether the recordings made by the microphone method are due to sound signals (or manipulation of the microphone) or to radio signals detected by the sensitive tape recorder input.

A collection will be made of local short-wave radio messages picked up by tape recorder or amplifier. In addition, a radio will be used to listen to off-station noise, the actual broadcast being recorded simultaneously so that any fragments picked up can be identified. A tape of these fragments will be compiled to see whether or not they resemble the voices received.

A tape of voices received by Dr. Raudive will be compiled. This will be used to test various electronic devices, filters, etc., which may be able to reduce the background noise and improve clarity.

2. Possible Further Visit to Germany.

I had expected this to take place in December, or January at the latest. As I have plenty to do at the moment - studying *Breakthrough*, experimental work, the visit to Mr. Philip Rodgers, and so on - I shall probably not now be going before April (when the weather will be better). I hope to arrange visits to Prof. Hans Bender, Frau Hanna Buschbeck, Ing. Theodor Rudolph and Prof Alex Schneider, in addition to seeing Dr. Raudive again.

2nd February 1971

Report 2 completes the initial phase of the investigation. The visit to Dr. Raudive provided first-hand knowledge of what the voices were like, and of how he set about making his recordings. Here it was discovered that many recordings were made, not with the microphone, but by various radio methods, and this obviously made the study more complicated. All the initial experimental ideas had been conceived in terms of microphone recordings only. Hence steps were taken to obtain circuit diagrams and other relevant information about the various radio devices used.

It was perhaps a little surprising to discover that so little progress had been made in improving the clarity and quality of the voices recorded. Perhaps the geographic separation of the various workers contributed to this. St.Gallen, where Prof. Schneider lives, is a good four hours' drive from Bad Krozingen, and Ing. Rudolph lives a similar distance away near Ulm. Dr. Raudive himself was not an electronics expert, so he used the devices supplied to him and carried on making recordings. Those technically inclined seemed more interested in building and developing new recording input devices than in improving the clarity of voices received by the existing methods.

The next stage in my work came with meeting the publishers of *Breakthrough*, conducting some informal experiments with them (Report 4) and studying the book itself (Report 3).

"BREAKTHROUGH"

REPORT 3

Study of the book, *Breakthrough*

This book is essential reading for anyone wishing to study the 'Stimmenphänomen', those mysterious voices on tape discovered and studied by Mr. Friedrich Jürgenson, and subsequently subjected to more than five years' careful investigation by Dr. Konstantin Raudive. *Breakthrough: An Amazing Experiment in Electronic Communication with the Dead* is the English edition of Dr. Raudive's *Unhörbares Wird Hörbar* ("The Inaudible becomes Audible")(Otto Reichl, 1968), supplemented with a number of Appendices by co-workers, scientists and theologians, and a 20-page Preface by the publisher, in which he describes how he came across the book, became involved with the phenomena described therein, and decided that it was worth publishing.

Are the claims of the title justified? Or should it read, *Possible Potential Breakthrough: Some Strange Experiences Involving Apparently Electronic Ostensible Communications from soi-disant Discarnate Entities*? This the reader must judge for himself, but he should avoid a too-hasty dismissal of six years' painstaking work.

In his Introduction the author appreciates that "It certainly sounds fantastic to assert that we have made contact with spirit-beings, i.e. the dead, through tape-recordings", but although "The present stage of our investigation reveals this contact as, so far, only the delicate, fleeting pulse of a new reality, no more than vaguely discernible as yet, because of our lack of experience and the inadequacy of our technical aids.", "It is my opinion that the voice-phenomenon produces facts by means of which we can break through the habitual confines of our existence and make contact with the 'opposite world' that can be regarded as the *centre of our life after death.*"

I do not quite understand Dr. Raudive's discussion of the unconscious and the theory of relativity (or relativeness). He seems to reject most of modern psychology - and parapsychology - by declaring that "Psychology uses the term 'the unconscious', but admits that it knows nothing about it." and "One can take the 'unconscious' of parapsychology as a parallel (to the 'ether' in physics) and rate it as mechanistic-automatic fiction which calls for revision." Instead, he prefers the idea that "A world establishes its reality by its relationship to an anti-world; and the anti-world is a condition for the relative existence of the world and of all that is portrayed as reality in man." This is developed in Appendix IV, in which it is suggested that the anti-world might be made of anti-matter, and peopled, perhaps, by the souls of the dead. Whatever the reader may make of this, I think he will agree that it is not relevant to the main issue of the origin and nature of these strange recordings, and I would suggest that we simply take Dr. Raudive's point that the voices are "of an objective physical-acoustic nature" and not a projection of the listener's unconscious (or imagination) "onto the background of noises received from radio transmitting stations" and leave it at that.

Dr. Raudive's story begins with his reading of Jürgenson's book and subsequent visit to him to find out more. He then explains how the voices are heard and analysed: much practice is required before the ear can distinguish and determine their structure, "because of the unaccustomed rhythm, pitch, intensity and strange mode of expression used, which make these voices sound so different from earthly human ones." Five recording methods are described: microphone, radio, radio + microphone, frequency-transmitter and diode. There are two methods of making radio recordings; the first

involves the help of a 'mediator' : " one glides slowly from one end of the wavelength-scale to the other and listens carefully for a voice that will hiss 'Now', or 'Make recording!', or some such hint. At that precise moment one switches on the tape-recorder (which is connected to the radio...) and starts the recording, regardless of music or speech being transmitted on that particular wavelength, or of any other noises. Afterwards, when the tape is being played back, all extraneous noises resulting from radio-transmissions have to be carefully eliminated, so that possible 'voices' (always distinctly marked by their unmistakable rhythm, language mixture, and frequent habit of addressing the experimenters) may be discerned." In the second method, " One chooses transmitter waves that meet and produce a typical 'rushing' sound ('white noise'). In this way one can make recordings without interference from radio programmes ; but only afterwards, when the tape is being played back, can one hear how the voices stand out against the background of any incidental fragments of radio-transmissions. Once again they are recognised by their paranormal features." It is not quite clear what the frequency-transmitter method is, but it seems to involve (possibly artificially generated) carrier frequencies. The diode is a simple broad-band envelope detector (or'crystal set').

All voices obtained by these methods, while differing in some of their characteristics, can be divided into three grades of audibility: those in Grade A " can be heard and identified by anyone with normal hearing and knowledge of the language spoken"; Grade B voices are more rapid and softer, " but are still quite plainly audible to a trained and attentive ear." Group C " consists of the most interesting voices ; voices that give us a great deal of information and much paranormal data. Unfortunately, these can be heard only in fragments, even by a trained ear, but with improved technical aids, it may eventually become possible to hear and demonstrate these voices, which lie beyond the range of our hearing, without trouble." This is reminiscent of the 'Uncertainty Principle' which I formulated, during my visit to Dr. Raudive last September, on these lines : the more evidential, in general, a voice is purported to be, the harder it is to hear it.

An account is given of the characteristics of the voices recorded and these are neatly summarised :

" 1. The voice-entities speak very rapidly, in a mixture of languages, sometimes as many as five or six in one sentence.
2. They speak in a definite rhythm, which seems to be forced upon them by the means of communication they employ.
3. The rhythmic mode of speech imposes a shortened, telegram-style phrase or sentence.
4. Presumably arising from these restrictions, grammatical rules are frequently abandoned and neologisms abound."

By far the greater part of the book, however, deals with what the voices actually say : Chapter II, Speech-Content, classifies the utterances according to the various - and numerous - personalities who claim to communicate, and by the sort of information received ; Chapter III deals with recordings made with witnesses present (and sometimes Dr. Raudive absent), and in Chapter IV some experiments aimed at initiating a genuine two-way exchange or 'conversation' are described.

Each voice-fragment is given in its original language(s) with a reference to the place on the tape where it was found, e.g. (38g : 547) obviously means 'the green track of tape 38, ref. no. (on recorder rev. counter) 547'. Underneath is a list of the languages used and the English translation. This is all right as far as it goes. But the casual reader only interested in the translations may find it difficult to pick these out at a glance (the original *Unhörbares* .... has the voices in italics, which I think makes for greater clarity), and the serious student would probably like some more information.

For example, one needs to be a very versatile linguist to be sure of the correct pronunciation of the original voice texts. As no clue is given anywhere to the phonetics, one can only assume that the 'voice-entities'' words have the correct spelling for the languages in which they are claimed to be uttered. But what about those in Russian, which is normally written in the Cyrillic alphabet? Most of these appear to have been transliterated into German, e.g. " Wodka, Wodka, daj !" (p.138), " Wolga, my wse zabyti." (p.159), " Zdrawstwuj, " (p.233), though occasionally a more anglicised version appears : " Sdravstvuy." (p.287). But who is to know that the 'g' in " segodnja " (p.86) should be pronounced as a 'v', being one of the few cases of non-phonetic Russian? It would be nice, of course, if the Russian were reproduced in the Cyrillic alphabet, and each language printed in a different colour : one could then see at a glance which was which - and which predominated - and consult the relevant text-books about pronunciation. But as this would make the book even more expensive, I would be content with a genuine phonetic rendering of each voice (with a key to the pronunciation) in addition to the versions given. It would then be possible to verify the interpretation put forward by the author, or to suggest a different one.

Information about the audibility of the individual voices - and the method by which each was recorded - is also rather sparse. It would surely have been quite a simple matter to have added (1,A) (= microphone method, Grade A audibility) or (5,B) (diode, Grade B), etc., as appropriate after each voice text. This would have enabled the reader to assess the reliability of each voice-phrase cited, and determine whether the 'Uncertainty Principle' mentioned earlier was based on fact or fancy. Information as to the time of day and the date of the recording could also be given.

In his Preface, Mr. Peter Bander mentions the problem of interpretation, linking it to Dr. Raudive's wide but still incomplete knowledge of languages. He gives as an example the voice - probably of Grade A audibility - originally interpreted by Dr. Raudive as " Te Mark Clu, mej dream, my dear, yes.", which sounded to him and other English listeners more like " Mark you, make believe, my dear, yes." As it is on the record (prepared to illustrate the book) the reader can listen to it for himself and decide which he prefers - or whether *my* interpretation of the second part, "....make thee mightier yet" is any better !

Although after six years' practice his hearing is now very acute, Dr. Raudive does not rely on his own ear alone for the interpretation of the voices. Many of the phrases and sentences have been verified by independent witnesses (see Appendix III, The Listeners Verify). It is not clear, however, whether the listeners verify Dr. Raudive's own interpretations, or whether they listen to the voices first and write down what they hear *before* he gives his interpretation. The latter process would take longer, but would be much more objective and useful.

When we consider the nature of the messages received - assuming now that they are correctly received - another 'Uncertainty Principle' appears. This concerns the relation between the identity of the communicator and the information he (or she) can impart. For example, the messages from the author's mother : " Your mother " , " Kostulit, this is your mother " , " Here is mother, Kostja " .....tell the experimenter only that she is present, although occasionally the odd item of information is given as well : " Mother, you are pining away." " Konstantin, your mother. Terrible, terrible forces against you. Hold on to me ! Your mother." If the communicator gives a name and a message in separate phrases - as many do - how can the experimenter tell that both are from the same person? (I believe, however, that this problem is not quite so bad as it sounds, as Dr. Raudive tells me that the communicators in many cases speak with a characteristic pitch or quality of voice which enables their various utterances to be correlated and identified. See also p.184.)

One does not have to look far for examples of the voice-entities answering after being addressed : Dr. Raudive calls on X, and soon a voice will say, " X is here " ,

and give a brief message. Occasionally they remind him of his schooldays, place-names being correctly given: " Asune - school together." " Konstantin, here is Ladislav: you knew me in Kraslava." Nor can the reader fail to notice how often some version of 'Konstantin' or 'Raudive' or 'Konstantin Raudive' appears on the recordings. By far the most frequent is 'Kosti', but I have also come across: - " Ko, Kost, Koste, Kostei, Kostes, Kostem, Kosten, Kostene, Kostin, Kosta (which appears to be feminine, e.g. Naša Kosta, p.97), Kostja, Koschta, Kostula, Kostuli, Kostulit, Kostulite, Kostiti, Kostite, Kon..., Konci, Konzi, Konsta, Konstantin, Konstantins, Konstantina " and " Rauda, Raude, Raudi, Raudiv, Raudiv', Raudivs, Raudivi, Raudive, Raudives ". Allowance must be made, of course, for the various languages and case-endings used.

The voice-entities appear to see Dr. Raudive and others in the room, and they make comments like " He has a red pullover on his back." They also seem able to hear what he is saying: not only do they say so directly, but one is impressed by the number of times an answer comes, or words are spoken, in reply to, or relevant to, what Dr. Raudive has just said. When he makes a recording late at night, he is exhorted to rest or to sleep, and the voices bid him Goodnight.

The issue of Survival is a central theme. The voice-entities have no doubts about it: " The dead live, Konstantin." , " Kosti, we are." , " Please believe." On one occasion the experimenter asks a deceased communicator how he is. The answer: " Splendid, Herr Raudive." Dr. Raudive is encouraged to build and develop the 'bridge' of contact between the two worlds.

It must be admitted, however, that many utterances seem utterly inconsequential and nonsensical. This is a serious problem, and one sometimes wishes that the author had quoted fewer voice phrases and devoted more space to discussion of their relevance. Reading the voice-texts, especially in Chapter III, where they are given more or less in the order recorded, one gets the impression of a number of communicators all eager for a turn at the 'celestial microphone', with no one really controlling who speaks and when. Alternatively, one might be walking through a crowded room and just catching the odd phrase or two from each of a number of animated discussions.

The recordings with collaborators, described in Chapter III, produced some interesting results, although it is not clear whether there was any overall plan behind the series of experiments conducted. Some of the recordings were made in Dr. Raudive's absence, but as he insists on describing himself throughout the book as 'the experimenter', even when the experiment is being conducted by someone else, the reader can be forgiven if he gets a little confused. Sometimes technical details are given with tantalizing brevity, e.g. " At this session two tape-recorders were used: the same voices are registered on both tapes. There are in all 260 voices..." (p.252) or " The recording was made on two tape-recorders, partly through microphone, partly through radio..." (p.191).

With Dr. Raudive present, the voices sometimes refer directly to the other participant, e.g. Mr. Lidums, No. 2, but at other times they speak mainly to Dr. Raudive. Mr. Jürgenson visited Dr. Raudive in December 1966; the voices mentioned him by name. There are some interesting comments when Dr. Raudive is absent. The recording may start with " We need Kosti " (p.258) or " We need Kosti here " (p.260) or a voice may exclaim, " You have hidden Raudive! He is wandering in the garden." or implore, " Only through Kosti " " Kosti, you? Please, our Kosti !" But whether he is present or not, Dr. Raudive's friends and relatives continue to manifest, often to the exclusion of those of the 'sitter', and address him as if he was there (even when they notice, in the middle of a recording, that he is not: " It is a fact, Koste is not here." (p.209))

Although Latvian still seems to predominate, a considerable amount of Russian appears in the recording made in the presence of Mr. Valerij Tarsis, the Russian writer, and similarly some Swedish for Mr. Jürgenson, and so on. Mr. Tarsis writes

an interesting commentary on his session later in the book. At another session, Prof. Atis Teichmanis is making a recording while Dr. Raudive sits in another room, " trying by intense concentration to evoke the presence of human beings once close to him." A voice says, " Marvellous, Raudive waves here. Dear Kosta, Kosta tries." The next one comments, " Look, how Atis smokes! Kosti, here is fog." (pp.244-5)

That terrestrial radio transmissions may act as 'voice sources' is discounted by Dr. Raudive for the following reasons: -

1. Characteristic and unchanging features of the voices themselves: peculiarities of language and speech, rhythmic enunciation, speed and pitch.
2. Polyglot sentences are spoken by one and the same voice.
3. The entities address the experimenter and his collaborators by name, recall memories of life on earth and repeatedly give their own names.

It is also pertinent to ask whether it is legitimate to cite a *freak* of radio transmission to explain a phenomenon which occurs reproducibly and regularly.

The Appendices are not just a collection of testimonials, but contain a number of sound and thoughtful treatments of the problems involved, with useful suggestions for experimental work. Of particular interest is Prof. Schneider's excellent and comprehensive account of the technical and scientific aspects of the phenomenon, and the instruments designed and built by Ing. Theodor Rudolph and Ing. Franz Seidl, specially for receiving the voices, have produced some promising results, although they are still being developed.

How the voices get on the tape remains a mystery. All the listeners agree that they are there, and the scientists think that some form of electromagnetic radiation is involved. The rôle of the experimenter is still not clear; Dr. Raudive started his own experiments " to isolate (the phenomenon), if possible, from Jürgenson's personality as medium..." - yet many think that Dr. Raudive has mediumistic powers too. Mrs. Nager (Sec., Swiss S.P.R.) commented on how the audibility and clarity of the voices had developed in the year between her visits. Dr. Raudive himself believes in telekinesis, but for some reason the hypothesis that the phenomenon is produced telekinetically by the experimenter is not given serious consideration. There is no need to deny the possibility of discarnate spirit communicators; only to suggest that the information may come first to the experimenter by telepathy, and be clothed in words from his own unconscious mind before being imparted to the tape. How else can the extraordinary mixture of languages, many of which the purported communicators did not know in their earthly life, be explained? It is an important question. If further experiments show that the phenomenon is not only genuine - which, I believe, is yet to be conclusively demonstrated - but also independent of human agency, then we have perhaps the first example of medium-less communication, and as a tape recorder does not have a mind at all, let alone an unconscious mind, we may be one step nearer to solving the mystery of Survival. If the experimenter is involved, however, each communication will have to be judged on its merits, and the possible intrusion of material from his own mind can never be ruled out.

18th April 1971

References to further reviews of *Breakthrough* are included in the bibliography at the end of Report 23.

The reader may detect a slight note of disappointment in this report. Possibly I had expected more from the long-awaited book: accounts of carefully controlled experiments, examples of voices giving information not previously known to the experimenters, recordings of voice phrases showing greater evidence of purpose or of coherent, meaningful communication. Perhaps I felt a little overwhelmed by page after page of rather inconsequential, unconnected utterances. Nevertheless, this study was a useful part of the research, and a necessary prelude to the experimental work which followed.

REPORT 4

14th January to 16th February 1971

Further Progress.

1. Experimental Work.

(a) With Mr. Colin Smythe and Mr. Peter Bander.

When I visited Colin Smythe Ltd. on 14th January it was suggested that some experiments be undertaken to see whether we could obtain voice recordings independently of Dr. Raudive. If these were successful, demonstrations to a number of well-known and critical observers would create good publicity for the book, *Breakthrough*. It was hoped that we might obtain voices speaking mainly in English, which would be more comprehensible to the general listener than the usual mixture of Latvian, Swedish, Russian,etc., recorded by Dr. Raudive. That there was a reasonable hope of success was indicated by the fact that Mr. Bander reported that he had already obtained some characteristic messages from his parents. He also described one or two personal psychic experiences, and this suggested to Mr. Bearman and me that if mediumship of some sort was required for successful production of the voice phenomenon, then he might have the required sensitivity. Accordingly, a number of experimental sessions were held at the home of Mr. Smythe and Mr. Bander in Gerrards Cross.

Apparatus.

Two tape recorders were available: a Bang & Olufsen stereo machine belonging to Mr. Colin Smythe, and a Ferguson 4-track (mono) machine belonging to Mr. Peter Bander. There were several sets of headphones and it was possible for two or three people to listen simultaneously to the same tape. In addition, after the first session, I brought my stereo amplifier and used it to drive a set of headphones, which enabled me to observe the effect on clarity of variation of the tone controls. A simple diode circuit had been assembled some time previously and was used as an input. The audio frequency noise generator (mentioned in Report 2) was also used as an input device. All recordings were made at 3¾ i.p.s., on the B & O recorder unless otherwise stated.

Procedure and Results.

21.1.71

Mr. Bearman, Mr. Lovelock, Mr. Brandreth (another director of Colin Smythe Ltd.) and Mrs. Nadia Fowler (translater of *Breakthrough*) were also present at this session. Several recordings, each of a few minutes' duration, were made using the diode method. I found it quite impossible to distinguish any voices at all, although most of the others claimed to hear quite a number. A later recording was made on the Ferguson recorder: this did produce a faint rhythm, recognised by Mr. Bander as the word, "Mutter" (German: 'mother')

26.1.71

Mr. Leslie Hayward, a young employee of Colin Smythe Ltd. with very good hearing, was present at this and later sessions. This session incorporated a useful improvement in recording technique: instead of using a continuous tape, each recording was made on a loop of tape about 32" long, voice-entities being expected to communicate during the 7-8 seconds available. This considerably simplified the play-back procedure. Mr. Bander already had two loops with voices on them, but when I listened to them I could hear nothing. The original recording of "Mach die Tür mal auf" was then found and made into a loop. I listened to it carefully. For some time I could hear nothing, but eventually I seemed to be imagining a rhythm at a certain point on the tape. It was so faint and quiet that I did not feel that I was hearing it at all; it was as if it was appearing at 'thought level'. After a while

this rhythm had become quite clear: I was able to tap it out and this agreed and coincided with what the others had heard. Finally I could make out most of the words, or at least, "Mach die Tür ha ha".

Not being entirely satisfied with the technical aspects of the present recordings, I made some experiments with the diode and discovered that (i) the signal produced by it was extremely weak, and (ii) consequently the background noise on the recordings was due entirely to the tape recorder amplifier. Two further recordings were then made, the first with no input device, but with the microphone input sensitivity still at maximum, and the second with the noise generator connected (as the diode had been) to the microphone input (sensitivity still at max.).

On listening to the first recording I noticed a faint rhythm which sounded like 'Raudiv', but it was some time before Mr. Bander heard it. He preferred the interpretation, 'David'. The second loop revealed a voice phrase of several syllables, the vowel sounds apparently (short) 'o', 'e', 'i'. Mr. Bander was able to hear 'John Ellis', and revealed that on making the second recording he had mentally asked for confirmation of the first. The result is interesting as if our interpretations were correct the total message heard made up my full name.

29.1.71

Further recordings were made using, in turn, diode, no input, noise generator, and the diode on a long lead. The voices, if any, were extremely faint and hard to make out, but appeared to be relevant to the proceedings, e.g. 'This noise is no good' with noise generator, and 'Cut this wire' with the long lead. They were so faint that it was impossible to fit anything but English words to the sounds heard, and even then it was largely a matter of guesswork. It is quite possible that the interpretations reflected little more than the mental attitudes of the listeners.

4.2.71

Some trials were made of the microphone method, using the Ferguson recorder. It was found unsatisfactory to turn the sensitivity up to maximum and put the microphone outside the window or near the ceiling: stray sounds or tape recorder noise were too easily picked up. Better results were obtained with the microphone on the table between us, and the sensitivity adjusted for normal conversation. Using this technique a recording was made with an introduction like Dr. Raudive usually gives and any spirits present were invited to speak. When the tape was played back the word, "Achtung", which no one remembered saying, was heard. This was the clearest 'voice' so far. The recordings having been made on a normal tape, the section containing the suspected voice was cut out and made into a loop for closer examination.

8.2.71

Mr. David Stanley, an electronics engineer, was present for the first part of this session. Using his apparatus, attempts were made to copy and amplify some of the voices previously recorded, but these were not successful as the background noise was also amplified - and increased. However, simple copying of 'Achtung' a number of times in succession onto a loop was found to be helpful. Another voice was found on the opposite track to 'Achtung' on the same loop (quite by accident: the loop was played upside-down by mistake); it sounded like 'Raudive'. Mr. Stanley discovered that the diode, having been wired up for use with the Ferguson tape recorder, was not feeding any signal into the B & O machine, as the connections to English and Continental sockets are differently arranged.

A recording was now made, using the microphone for a 'Raudive-type' introduction, followed by five minutes' silence, and a further few minutes with the diode (now wired correctly). Unfortunately a fault developed on the tape recorder, noise and smoke being emitted, and the experiment had to be curtailed. The tape was played back on the Ferguson recorder but no voices were discerned.

(b) Other Recordings.

Some recordings were attempted at the Paraphysical Laboratory, (Downton, Wiltshire) which is ¾ mile from the nearest road (and further from the nearest house). Electricity is supplied by a diesel generator. A recording was made during a meeting (6/2) using a mains tape recorder and (i) microphone and (ii) no input. Noise from the tape recorder motor and the generator was found to interfere, and no voices were detected. A second recording was made (7/2) by Dr. John Koot, a Dutch scientist, with the microphone in a 'soundproof' box, but the latter was not sufficiently soundproof and the experiment was unsuccessful.

2. Other Sources of Voice Recordings.

I visited a friend in London on 19th January and listened to some recordings that were made at a meeting which she had attended. In addition to the normal conversation some extra voices had been heard. I copied these, but think that they were probably from police cars or other local short-wave users. In one a passing car is also heard.

3. Publicity.

An agreement was signed with Colin Smythe Ltd. on 29th January. Under this, they promised to put at my disposal all materials in their possession (including manuscripts, proofs, etc.) relating to the 'Raudive Voices', and to allow me to participate in any experiments carried out for promotion of *Breakthrough*. In return I undertook not to give any interviews to press, radio or television (without their agreement) before the publication date of *Breakthrough*, nor to issue any more reports (except to my Supervisor) before this date. No objection was raised to the issue of Report 2, which covered the period before my first visit to the Company, and I have not been ready to prepare later reports until recently anyway. In consideration of my full cooperation, Colin Smythe Ltd. would accept for publication the first option on any book which I should subsequently write about my research on this topic.

19th April 1971

These experiments were neither encouraging nor conclusive. They could be summarized by saying that no loud, clear voices were obtained, and that the very faint effects which we did notice were insufficiently distinct for any confidence to be placed in the interpretations. Possibly the differences in apparatus or location could account for our results being markedly inferior to those obtained by Dr. Raudive, but one was left with a strong impression that his presence was somehow necessary. Far from initiating a series of experiments in which the mode of action of possible 'voice entities' might be elucidated, we had failed to establish even the prima facie case for the phenomenon.

VOICES FROM U.F.O.s ?

REPORT 5 17th - 19th February 1971

Preliminary.

This report deals with my visit to Mr. Philip Rodgers at Grindleford, near Sheffield. As stated in Report 2, Mr. Rodgers has a large collection of recordings, which he believes are derived from U.F.O.s. I spent three days with him, during which we listened to and discussed his recordings and I played him some from my collection of other people's recordings, and on the third day we also recorded on tape a two-hour discussion of his recordings and their U.F.O. background. Mr. Rodgers has written a book, *The Saucerer's Apprentice*, and although this has not yet been published he kindly lent me a copy of the typescript, which I read before preparing this report.

1. Technical.

Mr. Rodgers' usual method is to place his simple moving-coil microphone on the left hand side of the outer sill of his bedroom window, facing east. The tape recorder, at present a Philips portable (not cassette) with mains power supply and previously a Grundig T.K.9 (mains operated), is placed on the right hand side of the inner sill. The upper and lower sashes of the window are then closed. There is a telephone (extension) on the left hand side of the inner sill: the wire runs near to the microphone and vertically downwards to the living room below. This is the only wire which was there when the important recordings were made, although various aerials have been added since. The telephone is not used during recordings, but experiments have shown that only a very faint signal (in addition to Mr. Rodgers' voice heard through the window) can be picked up even when it is in use. (N.B. Mr. Rodgers later informed me that the telephone had sometimes been used during recordings, giving rise to some very peculiar voices (not mentioned in the book). But he emphasized that some of his best recordings had been made in Sheffield in a house without a telephone.) The tape recorder is switched on and Mr. Rodgers gives the date and time through the closed window. Normal recording time is now 5 - 10 minutes, but in the past recordings have been longer, often up to the full length of the tape (30 - 45 mins.); speed used is 3¾ i.p.s. Mr. Rodgers tells me that no recordings can be obtained (i) when he is not in the building, (ii) if he is asleep or (iii) if the upper sash is left open. The best time for recording is about 9 p.m.

2. Characteristics of Recordings.

While Mr. Rodgers' recordings have some similarities with those of Dr. Raudive, e.g. a number are faint, and some have a ghostly quality, the differences are more marked. For one thing, they do not consist only of voices: there are metallic clangs, hissing sounds, odd musical notes and other sounds as well. The voices are not polyglot but speak mostly in English, often with a metallic or nasal quality and slightly 'foreign' accent. Occasionally a strange word will come in the middle of a sentence: Mr. Rodgers has checked these words with the B.B.C.'s foreign language department at Caversham but they appear to correspond with no known terrestrial language.

Often the voices come right at the beginning of a recording, leaving the rest of the tape blank. Only once was a direct answer received. (This occurred during a Christmas party. Mr. Rodgers said, "We're going to drink your health now, so jolly well put up a good show!" and immediately a sexy female voice answered, "O.K.") At other times Mr. Rodgers has heard his own voice on the tapes, saying something he

could not remember saying, and the recording being made when he was not speaking. On another occasion the voice of someone he knew but had not seen for ten years was heard on the tape (saying something which he might have had occasion to say nine years previously). Mr. Rodgers' name is mentioned several times, both as 'Philip' and 'Philip Rodgers'. None of the voices or other sounds are heard at the time of their recording.

3. Some Recordings Briefly Described.

For identification, Mr. Rodgers has allocated names to all his more interesting recordings.

(a) Time Check.

Mr. Rodgers forgot to use the 24-hour clock as was his normal practice, and gave the time as "seven minutes to nine in the evening". Immediately following this, a man's voice, distinctly nasal but with no trace of foreign accent, is heard to say, "Twenty-one twenty - er - fifty-three.....Right?"

(b) An Overture.

(i) the single word 'overture' appeared on a recording.
(ii) Mr. Rodgers heard that 'An Overture' by Lennox Berkeley was to be broadcast as part of the B.B.C. midday Concert Hour the next day.
(iii) re-examination of tape showed faint 'an' before 'overture', also 'He only wrote one.'
(iv) original decision to copy concert direct from radio changed after a friend's 'telepathic' message: use normal method and start early, radio on, but not too loud.
(v) voices, appearing to come mainly from two men and a woman, start about fifteen minutes before the concert.

Philip Rodgers	Time eleven thirty.
Woman	Space!
2nd Man	I'd say five to one!
Philip Rodgers	Sorry. Eleven forty-five.
Man	(indistinguishable)
	(Beautiful whistled motif, very loud, clear and musical)
Man	(singing in monotonous descending chromatic phrase)
	Mnyah...Mnyah...Mnyah..(for five minutes or so)
1st Man (excited)	Got Home Service on! How are you? (not clear, maybe 'Cahn du')
2nd Man	Goot!
1st Man	Want your name on the...(unintelligible)
2nd Man	It's on Home Service!
1st Man	Right! From space!
Metallic m. voice	How's tricks?
	(few minutes' pause)
2nd Man	Space. Take part in air arm. Yar-var nianna donnova - ionosphere.
Another man	I've gone!
?	(long whistle) Yonskaler Yes! You touch (indistinct)
	(pause) You've jammed it. Go on!
Woman (quickly)	He's shifting in time-space.
2nd Man	Shut up. (N.B. This man speaks with a Yorkshire accent which becomes very broad for these two words, making them rhyme with 'book'.)
Man (sotto voce)	My stoicranz is stuck!
2nd Man	Space!
1st Man (sarcasm)	Good old Einstein!
	(modernistic musical phrase played on some kind of Xylophone)
Men (singing, nasal tone)	Put your feet down!

?	(Overture is now introduced on radio.)
? (very quiet)	It's on! Go ahead!
	Don't talk please.
	(two seconds later the opening chords of the overture are heard on the radio.)

No sounds are heard during the first three items of the concert, but during the fourth, while Philip Rodgers at lunch, loud rapid tapping on microphone case, followed by some clanking noises. A little later,

Woman (authoritatively)	Use short waves! Point one two siddiboderias!

Notes. 'Yonskaler' was the name of an instrument made by Mr. Rodgers. It had been in use for several weeks but at the time of the recording it was out of order ('jammed'). 'Put your feet down' was a favourite phrase of Mr. Rodgers' instructor when he was training with his guide dog six years later. No explanation has yet been found for the loud rapid tapping on the microphone, but it does not appear to have any connection with the recording.

(c) The Night Visitors.

Unlike the other recordings, this one was made indoors. The session started at about 4 a.m. and finished at about 5.30 a.m. The tape recorder stood on an oak table in the Rodgers' living room, and the microphone on a wooden armchair about two feet from the chair in which Mr. Rodgers sat. A comment was made to identify each natural sound. Mr. Rodgers fell asleep, to be awakened by the tape stopping. He turned the tape over and went to sleep again. Playing back the tapes revealed the following: - sounds of people rushing into the room, accompanied by peculiar hissing noises. A sliding metal door was heard, although there was no such fitment in Mr. Rodgers' house. Then came a blank of about a minute, during which only the motor hum was audible, followed by a shuffling sound and the voice of a young girl. There was nothing more on Track 1 except the clink of coke falling in the grate, on which Mr. Rodgers commented before he went to sleep. About a minute after the start of Track 2, people seemed to be running into the room, opening drawers, taking things out, putting them back again, closing the drawers, lugging a great object to the window, opening the sash, heaving the object through, then closing the window with a resounding thump. After this all was quiet except for the motor hum and Mr. Rodgers' breathing. When he had listened to the tape in the morning, Mr. Rodgers had been so astonished by the sounds on it that he had come downstairs to see if the television had been stolen. But nothing had been disturbed.

(d) Recorded Repeat.

A recording of about 45 minutes' duration was made, and on playback some fourteen different sound sequences were heard and copied onto another tape. 45 hours later another recording was made and the sounds on it found to correspond exactly with those on the first tape. Unfortunately the original of the first recording was lost, and it is thought that the second recording was made over it. The second tape is clearer in most instances, but the first tape also contained some natural sounds, such as Mr. Rodgers coughing, and shouting to his mother, and a T.V. aerial clanging, which are not on the second. The unexplained sounds are very varied, and include part of the announcements at the end of a B.B.C. stereo broadcast (made at a different time), a mention of Grindleford and Mr. Rodgers' own voice, among others.

For each recording Mr. Rodgers says he obeyed a telepathic message to 'switch on now'. There was the sound of wind blowing through the microphone on the second recording only. Near the end of each recording was a snatch of distorted music, identified as "When the Stars are Brightly Shining" (Puccini: 'Tosca, Act 3), implying, 'Look up to the stars if you want to know the origin of these recordings.'

If we are not to accept the evidence at its face value, i.e. that these recordings were specially made up and transmitted to Mr. Rodgers on two separate occasions, we must explain why the natural sounds are on the first tape only, and why the second is clearer. I suggested that the natural sounds were added during the copying process, and that the second 'recording' was in fact the lost original of the first. Mr. Rodgers replied that he never copied through the microphone but always connected the extension speaker output of one tape recorder to the radio input of the other. I have since conducted some experiments copying in this way and have shown that the loudspeaker of the first recorder can act as a microphone and that coughs and shouts can get onto the copy. But as Mr. Rodgers distinctly remembers these noises being made during the first recording and not while he was copying it, it would seem that my 'explanation' is insufficient.

4. Relation of Recordings to U.F.O. Phenomena.

Philip Rodgers' book, *The Saucerer's Apprentice* , contains a detailed and interesting account of his career in the study of these phenomena from late in 1956, when he first became interested, to 1970, and the story of the recordings forms an integral part of this career. Apart from sighting craft himself, and collecting reports, he heard a number of unaccountable singing sounds, and it was with the intention of recording some of these - to prove that he was not 'hearing things' - that he first took up making tape recordings. He has had a number of very strange experiences (related in the book) and has more recently been privileged to meet several people who claim to be 'space people', living as ordinary human beings somewhere in the North of England. They have provided information which has shed light on his recordings and how they were made, and have translated for him some of the strange language which occasionally appears on his tapes.

The first indication of the origin of the recordings, however, came in a message (the only actual message he has ever received) in the form of a voice near the end of one of his tapes. A strange and utterly impersonal voice is heard to say, "Ship is real: people." which might be expanded to "Space ships are real: they are manned by people." The words, 'Space', 'In Space', 'From Space', often occur on later recordings (but no planet has ever been mentioned). In addition to this sort of internal evidence, there have been reports of U.F.O.s sighted within a few hours of some of his major recordings.

Mr. Rodgers has never heard or recognised the voice of a departed spirit on his tapes, and other listeners - spiritualists and psychic researchers - have declared that his voices do not sound like spirits. The subject matter is entirely different: Dr. Raudive's voices talk about life after death, etc., but Mr. Rodgers' voices seem to him to be showing him what the space people are like, how happy they are, what they do and what their technology can achieve.

5. Conclusions.

Mr. Rodgers says in the introduction to his book that he is perfectly willing to make a signed statement that all the events described therein occurred exactly as stated, and I can see no reason to doubt him, although it is possible that a few occurrences may have been illusory or due to natural causes. I can think of various experiments which might help to show where the recordings come from, but I feel that, as the latter are so different from Dr. Raudive's and originate ostensibly from a completely different source, I would not be justified in pursuing the subject further at present. I found the book very interesting and would like to see it published, and I would like very much to meet and talk to one of the 'space people'. The various instances of telepathy described in the book are also worth closer study. The main problem is that although the recordings are strange, unearthly and apparently

inexplicable, the hypotheses advanced to account for them are so, literally, 'out of this world' that even my capacity for believing is severely taxed. Yet who am I to say what is possible and what is not?

23rd April 1971

I was much intrigued by my visit to Philip Rodgers, and maintained a lively and very friendly correspondence with him, using tapes as he was now practically blind. I suggested one or two possible explanations for some facets of his recordings and we discussed these amicably, Philip usually having an answer to rebut my theories. For the most part, however, I remained baffled by them all. Further study was inhibited by the fact that he did not allow anyone to copy his recordings, and experiments on new material were precluded on account of the successful and interesting recordings having more or less ceased.

Extract from Report 7 (13th August 1971)

Mr. Philip Rodgers said that my suggested explanation of his 'Recorded Repeat' recording (Report 5, p.3) was inadequate, because

(i) his memory of the events is very clear, and the circumstances which gave rise to his shout require its happening during the first recording.

(ii) one of the 'natural sounds' (the TV aerial clanging) was, in fact, on the second tape but not on the first.

(iii) he has carried out experiments copying in the way he did on this occasion, and at the same time making loud noises in the vicinity of the tape recorders. None of these sounds could be heard on the copy. The reason, apparently, is that connecting a lead to his extension speaker socket disconnects the internal speaker.

Mr. Rodgers described my Report 5 as 'fantastically accurate' and 'very fair' and asked for some copies for his friends. There were, however, a few very minor corrections and additions (which have now been incorporated). But he asked me to make it clear that he was no longer obtaining any recordings, most of the good ones having come during the years 1958 - 59 . This meant that, unlike Dr. Raudive's recordings, they could not be the subject of present - or future - experiments, unless the 'space people' decided to resume transmissions. It also weighed against the possibility of the sounds recorded having a natural (terrestrial) origin, as in this case he would expect to get them all the time.

Extract from Report 17 (19th May 1972)

Visit to Mr. Philip Rodgers at Denton 1100 - 1845 23.3.72

Although I listened again to some of Mr. Rodgers' tapes, this was mainly a social call. Mr. Rodgers was recently married and seemed very happy. I met his wife and two of her sons. Owing to some misunderstanding about when I was arriving (the visit was arranged by telephone and I neglected to confirm the details in writing), Mr. Rodgers was out when I arrived, but I was able to use the time to good advantage writing up my notes. For this and other reasons my departure was later than intended.

* * * * *

In 1973 Philip and his family took part in one of my Listening Tests (see Report 20). But it was only a few months later that I heard the sad news from Mrs. Rodgers that Philip had died in October of that year.

FURTHER DEVELOPMENTS

REPORT 6 20th February to 31st March 1971

Further Progress.

1. General.

I visited Gerrards Cross on 9th March and discussed the voice phenomenon with Mr. Peter Bander for about two hours. Mr. Bander suggested that whether a given experimenter obtained voices on his tapes depended more on his psychological attitude to the proceedings than on any capacity for mediumship. He outlined some of his plans for publicity before the publication of *Breakthrough*, and gave me a pre-print copy. Mr. Smythe's tape recorder not having been repaired yet, and his own and Mr. Smythe's spare time being rather limited, Mr. Bander suggested that I continue our experimental programme on my own.

Prof. DDr. Andreas Resch happened to be in England for a few days and was invited by Mr. Cassirer to visit the Paraphysical Laboratory on Sunday, 21st March. Many aspects of parapsychology were discussed during his visit, including the voice phenomena, and Prof. Resch suggested that he and I might spend a week with Dr. Raudive in Bad Krozingen for the purpose of conducting some experiments.

On 19th March Mr. Colin Smythe told me that Dr. Raudive would be in England the following week in connection with promotion of his book. Fortunately I was able to arrange a technical discussion meeting with Mr. Ralph Lovelock and Mr. Peter Hale, at Belling and Lee, Ltd., Enfield on 24th March, and at this meeting we discussed details of an experiment to be conducted in their radio-frequency screened room with Dr. Raudive on 26th March. Mr. Hale expressed the opinion that Dr. Raudive's voices originated from normal radio signals and mentioned the 'Luxembourg Effect': the 'modulation' of carrier waves by uneven reflections in the ionosphere.

2. Correspondence and Information.

Ing. Theodor Rudolph very kindly sent me a circuit diagram of his 'Goniometer' and told me about his work.

In reply to my query, Mr. W. G. Roll, of the Psychical Research Foundation, sent me a copy of *Theta, No.8* (Winter 1965), in which he described his investigations of Friedrich Jürgenson's voices in collaboration with Prof. Bender. Some interesting results (e.g. the words 'fertig machen' appeared on one occasion on the experimental tape but not on the control) were obtained, and although no definite conclusions could be drawn it was agreed that the phenomenon was worth further study.

3. Experimental Work.

Recordings with the microphone method were attempted at a meeting at a friend's house in St. Albans on 4th March. The microphone was supported near the ceiling on a tripod as far from the tape recorder as possible. It was found that the mains-operated recorder was far too noisy, and the second recording was therefore made with the cassette recorder (covered with a cushion). This was better but a number of natural sounds, near and far, were recorded. Some faint voices were heard, but there is no reason to believe that they were not terrestrial.

Rather more success was achieved at a meeting at the Paraphysical Laboratory on 20th March. The microphone, connected to the cassette recorder, was suspended from the ceiling immediately above the table during a table-tilting 'seance'. The 'entity' agreed to put a voice on the tape and three minutes' silence were held at the end of

the 'seance' for this purpose. On play-back, a reasonably clear whisper, 'Cut that', can be heard. Unfortunately, it is possible that it was uttered by someone present, quite probably one of the two people who departed before the tape was played back. It is hoped to make further recordings on these lines.

The session with Dr. Raudive in the screened room at Belling and Lee, Ltd. produced some interesting results. Mr. Hale had set up a signal generator plus aerial and a sensitive radio receiver, which could feed a signal to a tape recorder (this was Mr. Bander's Ferguson). Mr. Lovelock adjusted the radio apparatus: the signal transmitted and received was an unmodulated (approx.) 1.4 MHz. and the signal fed to the tape recorder was therefore made up of noise from the signal generator and from the radio amplifier. The microphone was used for giving introductory details and announcements, and for asking the 'spirits' 'how they were getting on', as Dr. Raudive felt that the microphone method was more likely to yield voices than the radio method. It should be explained that it was very noisy inside the screened room as there was a large fan in the ceiling above the microphone, and sounds from outside could be heard through the wave-guide ventilation.

I supplied a brand new BASF 3" L.P. tape for the experiment, and recordings were made on the whole of tracks 1 & 4 at 3¾ i.p.s. When the tapes were played back, Dr. Raudive detected several voices in the microphone sections, one of which was quite clear. It seemed to say, "Kur Raudi?" (Latvian, "Where is Raudi?"). It is possible that there may also be some faint voices in the radio sections, but the tape has not yet been properly analysed. If such voices should subsequently be detected, the reader will appreciate their significance.

(i) Considering these results, one is encouraged to do more such experiments, and, more important, Dr. Raudive is reassured that they are worthwhile and that they will not produce only negative results.

(ii) the voices obtained could not have come from outside radio sources, so the theory that *all* voices originate in this way, i.e. that the microphone, acting as a tuned circuit, is just another form of radio receiver, does not appear to be valid.

(iii) sounds from outside could have been recorded - at one point on the tape a telephone is heard ringing - but this possibility can be checked in future experiments by working after hours, when the outside laboratory will be empty, and by recording these sounds on a recorder placed outside the screened room.

(iv) as the microphone voices obtained have similar characteristics to others recorded by Dr. Raudive, maybe both are genuine or maybe both are derived from the same natural source.

4. Other Sources of Voice Recordings.

Mrs. ---- (see Report 2) wrote saying that further 'extra words' had been heard on a tape recording of a sitting, this time with the medium, Mrs. Ivy Northage. These were not audible during the sitting and were only discovered when listening to the tape afterwards.

It is interesting to speculate how the Raudive Voices, if paranormal, stand in relation to other psychic occurrences, and how they are related to Mrs. ----'s 'extra words'. One wonders if, for instance, there is any connection between these and Mrs. Leonard's 'direct voice' phenomena, studied by Rev. C. Drayton Thomas and described below by Prof. C. D. Broad, (*JASPR 49* (1955), 47 - 63) quoted in Prof. Hart's book, *The Enigma of Survival.* (p.90, 1st Ed.)

"There is one further development which looks prima facie like a paranormal *physical* phenomenon. At times, when an ostensible communicator is *not* in possession

of the medium's body but is ostensibly communicating indirectly through the Feda-persona, the following events happen. The sitter will hear a single word or a fragment of a sentence or even a whole sentence, spoken in an audible whisper which appears to come, not from the medium's lips, but from a position in empty space some two or three feet in front of her. Such sentences or fragments stand in close relationship to what is being spoken at the same time through the medium's lips by the Feda-persona...."

The main difference seems to be that neither Mrs. ----'s 'extra words' nor Dr. Raudive's voices are heard at the time, but are discovered on the tape afterwards. Are they just fainter?

Programme for Further Work.

1. Experimental Work.

The programme outlined in Report 2 is still in progress.

It is hoped that Dr. Raudive may be persuaded to visit England during the summer for further experiments in the screened room and in a sound-proof room.

2. Further Visit to Germany.

This will take place from 16th to 24th May. Mr. Manfred Cassirer has kindly agreed to come with me. Mr. Cassirer is the Research Officer of the Paraphysical Laboratory and has been a member of the S.P.R. for some thirteen years. He is well acquainted with the voice phenomenon and I need hardly add that he speaks excellent German. It is hoped to arrange visits to: -

Ing. Theodor Rudolph	(Unterbalzheim)
Mrs. Hanna Buschbeck	(Nordstetten b. Horb)
Prof. Hans Bender	(Freiburg i. Br.)
Dr. Konstantin Raudive	(Bad Krozingen)
Mr. Max Tobler	(Emmenbrücke)
Prof. Alex Schneider	(St. Gallen)

So far, three favourable replies have been received.

24th April 1971

Perhaps the most significant development in Report 6 was the experiment with Dr. Raudive in the screened room at Belling & Lee, Ltd., at Enfield. This was the first time that an experiment had been conducted with Dr. Raudive under reasonably controlled conditions. Screened enclosures are expensive and immobile; Enfield is a long way from Bad Krozingen. Yet progress in evaluating the radio recordings depended on being able to make sure that no radio signals from outside could be recorded, and working inside a screened enclosure would seem to be the only way of doing this.

No voices were recorded using the radio method devised by Mr. Hale, but it was a short experiment and perhaps no voices would have been recorded outside the room either. Unfortunately, because no precautions were taken against stray sounds being recorded from outside the room, little significance can be attached to the microphone voices obtained.

In itself, the experiment had achieved little, but as the first of a series of controlled experiments it was quite acceptable, since it highlighted some of the problems likely to be encountered in such work, so that these might be taken care of in future experiments. I therefore hoped very much that Dr. Raudive would be able to spare the time to come to England again to continue this work.

Report 6 concludes the first six months of the Studentship. Some of the experimental ideas had been tried; others had been rendered irrelevant by further information. Acquaintance with Dr. Raudive made fraud seem an unlikely explanation for the phenomenon; study of his recordings showed that a considerable number contained voices rather than nondescript sounds. There were two major problems: recording voices under carefully controlled conditions and interpreting the sounds on the tapes, few of which seemed to be recorded at all clearly or distinctly. The influence of Dr. Raudive on the recordings was yet to be determined: so far we had only the negative result of failure to make convincing recordings without him.

REPORT 7 1st April to 14th May 1971

Further Progress.

1. General.

I met Dr. Hans van der Haas, a Dutch scientist, at the English Speaking Union on 28th April. He told me that he had recently visited a medium (Albert Best, Glasgow), who had mentioned 'Molbo' several times (Mr. Jürgenson lives at Mölnbo) and asked him if he knew the name, 'Ellis'? The work Ellis was doing was only a start: a breakthrough was coming. This is encouraging, but not very evidential, as it would have been possible for Mr. Best to have obtained his information by reading *Psychic News*.

Mr. Colin Smythe spoke about the voice phenomenon at the College of Psychic Studies on 4th May, in a lecture entitled, 'Electronic Communication with the Dead'.

The interpretation, 'make thee mightier yet', suggested in Report 3 (p.20) for one of Dr. Raudive's voices, has been put forward independently by a number of other people and is now widely agreed. It now seems more reasonable to attribute this voice to Winston Churchill (as is suggested on the record).

2. Correspondence.

Dr. Bertrand Weißenbach, a German physicist, mentioned the possible existence of a longitudinal component to electromagnetic radiation, and suggested that suitable manipulation of this from 'the other side' might produce the voice effects.

Mr. Ralph Lovelock suggested some experiments to help find out how the record is imprinted on the tape: first. however, it would be essential for me to 'develop a facility equal to that of Raudive to obtain, analyse and log voices.' This seems to me to be easier said than done!

Prof. Ian Stevenson wrote to point out the desirability of having preferably several people listen to the voices quite independently and without any suggestion of what they should hear. This should be done with copies of the original voices, and written records made and compared afterwards. Dr. Raudive's method of presenting the material, with his interpretation followed by repetitions of the voice, obviously induced expectations in the listener of what he should hear.

Dr. Raudive wrote to say that the possibility of the influence of radio-transmitting could of course be excluded, "as there have been carried through severe analysis, especially concerning language and contents" - for instance by Prof. Bender and his colleagues. He also felt that little light could be shed on the phenomenon by postulating the possible occurrence of psychokinesis.

In a long letter to Dr. Raudive (10th May) I said, "When I started my research, and decided to circulate reports about my work, I wondered whether it would be a good idea to send copies to you, and if I did, whether I ought to be very careful what I

put in them in order not to offend you. After I had met you, however, I decided that it would be very much better to send you a copy than not to, and, moreover, that I should write what I thought I should, taking the risk that if, perhaps, I was rather critical - or sceptical - on occasion, you might think that I was less 'patik' (see Report 1, p.11) than you had thought!" and "I agree that the evidence against the 'radio-fragment' theory is strong - the relevance of the voice phrases and the frequent mention of your name - but sceptical people to whom I have talked do not find this convincing. There is so much about radio transmission that we do not understand. This is why the screened room (Faraday cage) work is so important. No one can argue with your results if your experiments are conducted in a room which radio waves cannot penetrate." I invited Dr. Raudive to visit England during the summer and stay with us in Epping, so that more tests under controlled conditions (in screened and sound-proof rooms) could be carried out.

My visit to Germany and Switzerland with Mr. Cassirer was successfully arranged and everyone was able to see us. Mrs. Buschbeck had to spend May in hospital for an eye operation, but she made good progress and we were able to visit her.

3. Information Received.

By far the most important scientific treatise on the phenomenon so far is Prof. Dr. Hans Bender's paper in *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie* I2 (4) 226-38, describing his work with Mr. Jürgenson, and the technical paper by Dipl.-Ing. Jochem Sotscheck (of Berlin) on the application of 'visible speech analysis' (ibid., 239-54). I give here a short quotation from the English summary of Prof. Bender's paper:- "As an initial approach the Freiburg Institute in 1964 made an exploratory experiment to determine whether the voice-phenomena were normally explainable or evidence of paranormal effects. A second examination with better technical equipment in May 1970 made the paranormal hypothesis of the origin of the voice-phenomena highly probable. The analysis of the sounds with visible-speech-diagrams proved to be very helpful for the objective documentation of the supposed meaning." Would that the whole paper were available in English!

Ing. Franz Seidl wrote an interesting article in the May issue of *Esotera*. In it he suggested that on 'the other side' are an almost endless number of planes of existence. He thought that entities inhabiting the (ethically) lowest plane(s) would communicate by the microphone method - hence the groaning, cries for help and general complex of suffering revealed - and that other planes would use progressively higher frequencies: AM radio, VHF, light frequencies and so on. His experiments had shown that the ethical quality of voice phrases recorded improved as the frequency was increased. After the Psychofon he had developed the 'Infra-' or 'Ultra-fon', in which light was modulated by the spirit entities. One outstanding feature of all these devices was that the spirit answers could be heard immediately after the experimenter's questions, enabling a genuine and logical dialogue to be established, most of the communications being in German.

During Dr. Raudive's visit to England in March some experiments were conducted with him at Gerrards Cross by the Chief Engineer and the Chief Recording Engineer of PYE Records Ltd. They brought a specially designed 'diode' and other expensive equipment. Twenty people were present, including Sir Robert Mayer, Chairman of Colin Smythe Ltd., and Mr. H.V. Bearman. Subsequent analysis of the tape by Dr. Raudive revealed the presence of about 200 voices, among which references to Barbirolli and Artur Schnabel (both known personally to Sir Robert Mayer) are of particular interest. When Mr. Bearman gave his name during the recording a voice is said to have whispered, 'Kurla' (Latvian: 'he is deaf'). Mr. Bearman wears a deaf aid. A whispered voice also appears on Mr. Bearman's own tape at this point (he was recording the proceedings), but I have listened to it and cannot hear 'Kurla': for

one thing there are three syllables. Unfortunately I have so far been unable to find out the technical details of this experiment, or to arrange a meeting with the engineers who conducted it.

4. Experimental Work.

A further recording was made at the Paraphysical Laboratory on 1st May, using the same method as on 20th March (Report 6, p.31). This time the diesel generator was not running, and background music for the table-tilting 'séance' was provided by a second cassette recorder. A number of faint sounds were heard on the tape when it was played back, but all of these had been noticed (and accounted for) during the recording.

The recording made with Dr. Raudive in the screened room at Enfield on 26th March was copied on 7th May and the original tape taken to Dr. Raudive for analysis when we visited him later in the month. The copy will be used to confirm Dr. Raudive's analysis. Unfortunately it was realized too late that the copy, if it is to be used for analysis, should also be made in the screened room. (Otherwise extraneous radio signals may be added.) This precaution will be observed in future experiments.

From the many of Dr. Raudive's voices which I have on tape a number of the loudest and clearest were copied onto a cassette tape. They were edited so that each voice phrase was played four times, followed by Dr. Raudive's interpretation of it. This tape has proved very useful for demonstration purposes, and further examples are being added.

5. Other Sources of Voice Recordings.

My friend, and former colleague at S.T.L., Mr. G. Croom-Hollingsworth, is a leading member of a team currently investigating Borley. Mr. Hollingsworth made some recordings with a cassette recorder in Borley church, the first from about 2.0 to 2.45 a.m. on 25th April, and the second an hour or so later. The microphone was rested on the altar rail, the recorder set to level 3 (max. = 9), and any spirits present, particularly relatives of the Bull family, invited to communicate 'through this instrument'. Mr. Hollingsworth and his two companions then switched off the electric fires, went out, locked the door, and, as it was raining, sat in their car 300 yds. away while the tape ran. There are no distinct voices on the tape, but there are a number of strange noises, including a tap on the microphone, one loud bang, muffled footsteps, clanking of chains and various murmurings (which last might be attributed to pigeons).

6. Publicity.

Mr. Peter Bander made a number of radio broadcasts about the book, *Breakthrough*, in the North of England in April.

A discussion about *Breakthrough* between Mr. Bander and Mrs. Rosalind Heywood and Mr. Gordon Turner was broadcast on BBC 2 Television at 11.15 p.m. on 26th April on the programme, "Late Night Line-Up".

13th August 1971

GERMANY & SWITZERLAND

REPORT 8 — 15th - 26th May 1971

Preliminary.

This report deals with my visit with Mr. Manfred Cassirer to Germany and Switzerland, as proposed in Report 6 (p.33). The aim of the expedition was to discuss the voice phenomenon with a number of people actively concerned with it, and to visit Dr. Raudive and persuade him to come to England for some more experiments. I would like to say what a great help it was to have Mr. Cassirer with me: his fluency in the language, conduction of the discussions, knowledge of psychic matters and above all his company were invaluable.

Timetable.

date	travel	person visited	at	from
Fri 14.5	to Dover			
Sat 15.5	Ostend to Frickenhausen			
Sun 16.5	F to Unterbalzheim & back	Ing. Theodor Rudolph	Unterbalzheim	1330 - 2245
Mon 17.5	F to Tübingen and back	Mrs. Hanna Buschbeck	Tübingen	1300 - 1700
Tue 18.5	F to Bad Krozingen	Dr. Konstantin Raudive	Bad Krozingen	1900 - 2000
		"	"	2100 - 2330
Wed 19.5		"	"	1000 - 1230
	Bad K to Freiburg & back	Prof. Dr. Hans Bender	Freiburg i.Br.	1930 - 2130
		Dr. Konstantin Raudive	Bad Krozingen	2300 - 2430
Thu 20.5		"	"	1000 - 1300
		"	"	1600 - 2400
Fri 21.5		"	"	0830 - 1030
	Bad K to Oeschgen	Pfarrer Leo Schmid	Oeschgen	1600 - 1605
	Oeschgen to Dagmersellen			
Sat 22.5	D to Emmenbrücke & back	Mr. Max Tobler	Emmenbrücke	1130 - 2230
Sun 23.5	D to St. Gallen	Prof. Alex Schneider	St. Gallen	1400 - 2300
Mon 24.5		"	"	1015 - 1300
	St. G to Torkenweiler	Dr. Werner Schiebeler	Torkenweiler	1530 - 2030
	Torkenweiler to Krumbach			
Tue 25.5	K to Langenhaslach	Mr. Hubert Goßner	Langenhaslach	1115 - 1330
	Langenhaslach to Ostend			
Wed 26.5	Dover to London			

Details of Visits.

1. Ing. Theodor Rudolph.

Mr. Rudolph communicates with his deceased wife by means of a small pendulum suspended from a light thread which he holds between his thumb and finger. This swings rapidly to different letters, arranged in a semicircle on a sheet of card below it, in a very convincing manner. He has also received information about the Goniometer in this way, regarding both how to build it and how long it will take him to perfect it.

An experimental recording session of a few minutes' duration was held while we were present. Mr. Rudolph said that he could obtain voices as easily as Dr. Raudive does. It seems, however, that as he has given the Mark I version of the Goniometer to Dr. Raudive and, because of his limited time and resources, is only in the early

stages of constructing the Mark II - which at the time of our visit comprised an impressive air-conditioned cabinet with two meters near the top - Mr. Rudolph is at present without a Goniometer, and therefore reduced to using the microphone method.

A number of extraneous sounds occurred, e.g. housekeeper and cook talking in the kitchen, and birds singing, not all of which could be identified on playback. A number of voices were heard and for some of these we agreed with Mr. Rudolph's interpretation; an interesting one being, 'er war satt', first heard by Mr. Cassirer and meaning, 'he was satiated', referring presumably to Mr. Rudolph not eating with us when we arrived as he had already eaten. However, it was not always possible for Mr. Cassirer and myself to discern all the voices, some of which to our inexperienced ears sounded like knocks, bangs and other quite ordinary sounds. Mr. Rudolph kindly allowed us to take copies of the recording afterwards.

Mr. Rudolph also listens to the 31 m. waveband, especially late at night, and records what he believes may be U.F.O. messages. He played us some samples of these, which sounded quite interesting, and at 10 p.m. we tried to tune in to them, but we agreed with Mr. Rudolph that there were too many stations, morse messages, etc., at this time for anything very convincing to be heard.

2. Frau Hanna Buschbeck.

As mentioned in Report 7, we were able to visit Mrs. Buschbeck in the Eye Clinic at Tübingen. Mrs. Buschbeck collects reports from people experimenting with voice recordings, and issues reports periodically. Like Mr. Rudolph, she also receives messages by means of a pendulum, and it was this which urged her to contact Mr. Rudolph (of whom she had heard) and introduce him to the voice phenomenon. She dictates her pendulum messages onto a tape recorder: on one or two occasions extra (relevant) words have appeared on playback. She has also heard voices on new, unrecorded tapes, and voices addressing her have appeared on tapes sent to her by other people.

3. Dr. Konstantin Raudive.

Despite many attempts throughout our visit we were unable to persuade Dr. Raudive to come to England for experimental work. We offered to pay his expenses and promised a non-strenuous programme. Even the opportunity to win the £25,000 Ghost Club Contest (for which he has entered) for the best demonstration of a paranormal phenomenon under test conditions was not enough. His main reasons seemed to be that he could not afford the time for such a visit as he had to earn his living, and that he had felt so tired after his last visit (in March) that he could not face the prospect of another one. Another important factor must be that even after the apparent success of the pilot experiment at Enfield he doubts the usefulness of recordings in a screened room (for instance, if no voices are obtained, what is achieved?), and he sincerely believes that the validity of the phenomenon is already established beyond doubt: the fact that some people do not believe in it is due to their lack of knowledge of the evidence and to their sceptical attitude, which is unscientific.

In a discussion of my reports Dr. Raudive said that the voices could not be fragments of radio transmissions because of the content of the messages and because of their constant qualities. Voice-print examination had shown that all the samples of Margarete Petrautzki's voice recorded over a period of five years had had the same frequency characteristics. As we too could obtain these recordings if we tried, mediumship was not involved.

Dr. Raudive explained that the theory of relationships (mistranslated as 'relativity (or relativeness)' and misrepresented in *Breakthrough*) was a recognised philosophical theory, and was to be found in the works of Russell, Ludwig Wittgenstein, R. Carnap, A. N. Whitehead (*Science and the Modern World*)

and especially Konrad Marc-Wogau (*Modern Logic*). The 'anti-world' described in *Breakthrough* was known because the voices have told us about it.

Dr. Raudive played us some samples of his voices, including some very clear ones recorded by Goniometer during a visit from Mrs. Else Kolbach in September 1970, and allowed us to take copies of them. These voices are interesting in that their interpretation is almost unambiguous, yet, although they appear to be in German, they contain neologisms and corrupted German words.

While we were in Freiburg visiting Prof. Bender, Dr. Raudive made a recording using the microphone and (apparently) inter-frequency radio. We helped him to verify the voices on it, and in return he allowed us to copy both the original tape and the edited copy.

The following evening we had a recording session using, in turn, microphone, Goniometer, Psychofon and radio. No voices were obtained with either the Goniometer or the Psychofon and Dr. Raudive thought that this was because he may have allowed their batteries to run down by accidentally leaving them switched on during the winter. Only a few faint voices were obtained from the radio. However, the microphone recording yielded one interesting result, a voice almost superimposed on Dr. Raudive's saying quite clearly, 'Cutten'. We had asked to hear from the late Mr. R. G. Medhurst, and as Mr. Cutten was well known to him, Mr. Cassirer and myself, but not to Dr. Raudive, and involved with the voice phenomenon through being my Supervisor, his name would be a reasonable one-word message. It could not have been uttered by Dr. Raudive, who was saying something else at the same time, and the possibility that it was whispered by one of us can be countered by the fact that Mr. Cassirer had tried this later in the same session and his whisper had not been detected on the tape. It should perhaps be mentioned that during microphone recordings Dr. Raudive asks those present to talk, but to speak slowly so that voice-entities may manifest in the pauses between the spoken words. By the end of this recording session, with its attendant analysis, we were all very tired.

4. Prof. Dr. Hans Bender.

Prof. Bender kindly entertained us for a couple of hours on the evening of the day we called to arrange a meeting with him: he was due to fly to the Philippines on the morrow.

He said that there were three 'counter-hypotheses' which should be eliminated before any given voice could be considered to be paranormal. The first of these, projection into noise, or subjective misinterpretation, undoubtedly accounted for many of the early purported messages. The best answer lay in the use of 'visible speech diagrams' and the laboratory of the German Post Office at Berlin had been very helpful with these: tapes from the Institut being sent to them so that what Prof. Bender and his colleagues heard could be objectively confirmed. With the microphone method uncontrolled utterance by persons present could lead to spurious effects. The best way to cope with this was for each person to have a throat microphone and his own tape. Another method used by Prof. Bender was to have two minutes' conversation followed by a minute's silence, during which each sitter had to hold something tightly between his teeth. To avoid the possibility of the equipment recording fragments of radio broadcasts, the tape recorder at least should be in a Faraday cage (screened enclosure). They had at the Institut a specially built room which provided a reasonable amount of screening and sound-proofing.

Prof. Bender described how they had recorded a voice which he thought was almost certainly paranormal. None of the three 'counter-hypotheses' could explain it: the word, 'Rasmus', confirmed by visible speech diagram, had appeared on the tape only 0.05 sec. before he had said something, so it was physically impossible for him to have whispered it as well. No one else present knew the name, and although the recording was not made in the screened room it was an improbable word to pick up. It was directly relevant: Miss Rasmus, one of Prof. Bender's co-workers, was in the U.S.A. at the time, but he was thinking of her - contrasting the rather abrupt way she gives her name when answering the telephone with her normally rather emotional voice - while he was saying to Mr. Jürgenson how much he was impressed by the emotional quality of the voice of Mr. Jürgenson's 'guide', Lena, which he had heard in the morning.

In his studies of the voice phenomenon, Prof. Bender felt it reasonable to conclude that Mr. Jürgenson and Dr. Raudive functioned as mediums, and produced the effects by psychokinesis. The problem now was to find the material point at which the mind-matter interaction occurred, i.e. whether at the microphone, amplifier, tape head, or somewhere else, and whether or not it was affected by the distance of the medium from the apparatus. How far could he be from it and still obtain voices? It was thought that in general P.K. was dependent on distance. (I suggested (absent) healing as a possible exception, but Prof. Bender said that he preferred to regard this, if it occurred, not as P.K. but as telepathically induced auto-suggestion.)

We discussed the problem of Survival, especially in relation to the 'animistic theory', which is very unpopular among those who believe that the voices come from the dead, and which is linked by some with Prof. Bender's name in a way which suggests that this is what he passionately - and foolishly - believes. This is not strictly true. Prof. Bender's point is that while the spiritistic hypothesis might be possible, it cannot be proved, because the animistic interpretation is always a possible alternative. One does not need spirits to account for 'Rasmus' (nor, for that matter, for 'Cutten'): telepathy from the sitter is sufficient. Even the strong similarity between the voice on the tape attributed to the discarnate communicator and that of the person before he died, which has been noted on occasion, does not prove anything. I said that I believed in Survival from a religious, rather than a scientific, point of view. The 'Cross-Correspondences', while very good evidence, did not constitute conclusive proof. Indeed, as Prof. Bender observed, it was hard to imagine conclusive proof of Survival. He would like to survive and he had to be careful not to let wishful thinking cloud his scientific judgement.

Prof. Bender encouraged me to persevere in my work on the voice phenomenon with Dr. Raudive, and promised that he and his colleagues would do their best to help me. After our discussions we were shown round the Institut, and were much impressed by the equipment and facilities available.

5. Pfarrer Leo Schmid.

We called in as we were passing, but as Pfr. Schmid was very busy we exchanged greetings and good wishes and continued on our way.

6. Herr Max Tobler.

Mr. Tobler is an experienced electronics engineer. He has an impressive collection of measuring apparatus and appears to be very systematic and thorough in his approach to the phenomenon.

After trying unsuccessfully for three years to record voices with the microphone method, Mr. Tobler had changed to the radio method. He reminded us that Mr. Jürgenson had changed to radio recordings after one year, having been urged by the voices to do so. He prefers 3 m. (100 MHz.) ultra-short-waves to the 15-120 m. (2.5-20 MHz.) normal short waves as there are too many stations on the latter. Another method makes use of the aerial and all-band amplifier which supplies the whole building: the signal from this, comprising long waves, medium

waves, short waves, ultra-short waves and television, is passed through quartz filters to suppress selected strong stations (Beromünster, München and Stuttgart) and fed directly to the microphone input of the tape recorder, demodulation occurring at the first transistor in the amplifier. Mr. Tobler also records on medium or long waves using an old receiver tuned to a strong station (e.g. Beromünster) and listening to a lecture or sermon: someone speaking rather slowly. Extra voices can be heard between the words. He usually uses a mains-operated recorder, but when he wants to eliminate mains noise, pick-up, etc., he can run it from batteries instead.

Mr. Tobler has a comprehensive list of radio stations with their wavelengths and geographical positions, and he has studied the effect of the moon and the weather on recordings. His apparatus includes high- and low-frequency signal generators, frequency meters, a high-impedance voltmeter, a high-frequency low noise amplifier and an oscilloscope. Some of this is fairly recently acquired and it is used for studying the input signals, calibrating other apparatus and providing alternative recording techniques, rather than for examining the tapes of recorded voices.

We asked him how he was able to differentiate between genuine voices and the background of radio transmissions. He said that the voices have typical characteristics, the most helpful being their polyglot nature. As long as there is doubt they remain polyglot, but as soon as the investigator is convinced that they are not radio transmissions they revert to one or two languages; in Mr. Tobler's case, German and Swiss-German. The voices vary in quality; the good ones being indubitable (although loud ones are rare) and the bad being very high-pitched and quickly-spoken and completely unintelligible.

We discussed the construction of Faraday cages (screened enclosures). Mr. Tobler has built three so far, improving the design each time. It is important to avoid any kind of symmetry in the shape. The latest one, which, unfortunately, we were not able to see, consisted of two boxes, one inside the other. Each box was made of iron, some 3 mm. thick, electroplated inside and outside with copper. The inner and outer shells were electrically isolated from each other and connected from one point to earth by wire. This double cage attenuated cm. and longer waves (up to 3×10^{10} Hz.) by 100 dB., and mm. waves (3×10^{11} Hz.) by 60 - 80 dB. The tape recorder (Standard SR 500), powered by accumulators as these are less noisy than batteries, is placed inside the inner box and both the microphone and line inputs earthed to the box. New tapes are used, and (I think) run through the recorder first to make sure that they are blank.

Voices had been obtained at all stages in the evolution of Mr. Tobler's Faraday cage, and in the latest tests of the Mark III version a voice had said, 'Ma.....Max.....Max..' In general the voices obtained in the box were easier to hear: they were perhaps a little softer, but the background noise was considerably reduced and the signal-to-noise ratio therefore much better. Much impressed by this information, we asked whether we could hear samples of Mr. Tobler's recordings, particularly those made in the Faraday cage. Unfortunately, this was not possible: with nineteen tapes full of recordings it was hard to find the relevant material, and some had been sent away for analysis. However, Mr. Tobler promised to send me a tape at a later date.

7. Prof. Dipl.-Ing. ETH Alex Schneider.

One of the first things we discussed with Prof. Schneider was the question of interpretation of the voices, which he agreed was the biggest problem. He confirmed our fears that 'verification' of Dr. Raudive's recordings involved first hearing Dr. Raudive's interpretation. Dr. Phil. Theo Locher of the Swiss Association for Parapsychology had made a start towards tackling the problem by

collecting samples of voices recorded by each of the people involved and circulating a tape of these - made up by Prof. Schneider without interpretations - to all of them. Each person on receiving the tape was to listen to all the voices on each of three consecutive days, writing down what he heard (without reference on the second and third days to what he had written on the earlier days). On the fourth day he was to study what he had written, and work out a compromise for each voice, sending the tape on to the next person and the completed form with its set of interpretations to Dr. Locher. Preliminary examination of the results had shown a disappointingly low measure of agreement. Prof. Schneider played us some of the voices from the tape. Some were familiar, but for one of the others, what I heard, although quite different from what I 'should have heard', was in fact the approximate English translation! This curious effect is apparently quite common.

Making the voices clearer is as difficult as it is desirable. Prof. Schneider, in making up the tape for Dr. Locher, had filtered the voices to remove some of the bass. This had reduced the background noise but had not made the voices any clearer. The problem lies in the consonants, which are ephemeral sounds at best, and easily destroyed, changed or added. The human ear is better than a machine, but before we can have really objective interpretation an objective hearing test is required, to select those people who can hear (known) sounds most accurately.

How to improve the recording apparatus is also difficult. Either a new scientific model of reality is needed or help must be sought from other contacts with 'the other side'. A clairvoyant had given Prof. Schneider a message about the voices describing a recording apparatus using platinum and sodium. This was hard to comprehend, but Ing. Rudolph was adopting the same approach with his Goniometer, which, although it contained some rather strange features, did enable Dr. Raudive to record some good voices. In reply to my query about the auto-transmission method, Prof. Schneider explained that the signal generator, tuned to one of several frequencies in the medium wave-band and with output unmodulated, was connected directly to the aerial socket of the radio (tuned to the same frequency), 1 cm. of lead at the plug not being screened. Prof. Schneider advised me not to make frequent changes in recording method, but to keep to one method for a long series of tests.

We discussed the various theories advanced to account for the voices and agreed that the first priority was to establish that the voices were paranormal. They could be produced by a variety of physical effects, not all of which were electromagnetic. Prof. Schneider said that his belief that they were paranormal was a subjective impression: the voices seemed to be different from normal speech, but there was no single convincing example. He did not rule out the animistic interpretation, but thought that the idea that the voices came from Dr. Raudive's subconscious mind was too narrow in concept. He preferred to think that they came from discarnate entities or, perhaps, some part of the personalities of discarnate entities, and might reveal the 'psychic flotsam of the ether', which would account for their banality.

That Dr. Raudive sometimes does not get any voices was new to Prof. Schneider, but he said that in two years he had never heard any of Mr. Tobler's voices, despite requests for samples, presumably because Mr. Tobler was still developing his equipment and recording techniques.

8. Dr. Werner Schiebeler.

This visit was suggested and arranged by Prof. Schneider. After some discussion of the voice phenomenon and psychical research in general, Dr. Schiebeler took us to Ravensburg and showed us a film about psychic phenomena in Brazil, and his laboratory, which is attached to a technical college where he

gives lectures on parapsychology. It is very well equipped, with infra-red lighting, cameras, viewers and closed-circuit television, scales for the medium's chair, thermocouples and other apparatus for investigating physical mediums.

9. Herr Hubert Goßner.

We had arranged to visit Mr. Goßner on the previous evening, but it was further from Ravensburg than we had thought and we had been unable to get to Langenhaslach in time. We had intended just to leave a note, but Mr. Goßner came home specially to see us, and took us out to lunch. We discussed the voice phenomenon and our other visits, and Mr. Goßner lent me his complete set of Mrs. Buschbeck's reports for me to copy and send back to him.

Not expecting to find Mr. Goßner at home, we had arranged a brief visit to Dr. jur. Hans von Noorden at Baden-Baden on our way back to Ostend, but having eventually left the area at 1.30 p.m. instead of 10.30 a.m. and lost a further hour on the Autobahn through running out of petrol, we reluctantly had to telephone and cancel this visit, or, rather, postpone it until I come again in the Autumn.

General Observations.

Everyone with whom we talked, with the possible exception of Dr. Raudive himself, agreed that a major problem lay in the interpretation of the voices. The results of Dr. Locher's tests show that it is hard to obtain agreement on even the louder and clearer voices. If this is so, the argument that the voices cannot be fragments of radio transmissions because of their unique and characteristic content is no longer valid, but must be re-established by careful and thorough examination of Dr. Raudive's original tapes, with independent verification of selected key voice phrases by people with good hearing.

The recording which Dr. Raudive made while we were visiting Prof. Bender, apart from the microphone introduction, sounded so like the jumble of distant voices that one might expect to pick up by tuning between stations that no one who heard it considered it to be anything else.

Despite these difficulties, however, we did not find anyone concerned with the phenomenon who doubted that at least some of the voices were paranormal. Most people thought that Dr. Raudive and Mr. Jürgenson exhibited some mediumistic ability when they recorded their voices. Mr. Cassirer pointed out that in the investigation of any psychic phenomenon it was most undesirable for the medium and the investigator to be one and the same person. Mediums being rarer than researchers, Dr. Raudive should assume his rôle as medium and let others, for example, the experienced German parapsychologist, Dr. Hans von Noorden, undertake and plan the investigation.

Finally, I would like to thank all those whom we visited for their kind and generous hospitality, and for giving their time to talk to us.

10th October 1971

Our biggest disappointment was our failure to persuade Dr. Raudive to come to England for further controlled experiments, but the visit also highlighted one or two other rather disquieting facts about the voices. Chief of these was our experience of Dr. Raudive's 'interfrequenz' radio recording and his analysis of it. Not only did the whole recording sound to us like the jumble of indistinct voices which one might expect to pick up by tuning between stations, but other experimenters, such as Mr. Tobler and Prof. Schneider, thought so too. Yet Dr. Raudive had painstakingly analysed it, 'phrase' by 'phrase', without even tacitly acknowledging the possibility

that any of it could have been derived from terrestrial radio sources. Moreover, we had begun to be disillusioned of the idea that Dr. Raudive's hearing was significantly more acute than that of the average listener - for there were several instances when we did not think that his 'interpretations' represented a very close approximation to the sounds on the tape.

On the positive side, we were impressed with Prof. Schneider's concern for the problems of interpreting the voice phrases, and by his efforts (with Dr. Locher) to see how well different listeners agreed in the interpretation of the same set of voices. Mr. Tobler's apparatus and results were very interesting, but it was a pity that we did not get a chance to see his screened box or to hear any of the voices recorded in it.

We returned to England feeling much better acquainted with the voice phenomenon.

Dr. Konstantin Raudive with Mr. Manfred Cassirer
at Bad Krozingen, May 1971

THEORIES & PLANS

REPORT 9 27th May to 31st July 1971

Further Progress.

1. General.

My friend, Mr. Brian Baily ('DEWTRON'), acquired on 9th July an electronic machine which can produce a wide variety of audio effects by suitable combination of wave-forms which it generates. He succeeded in making it emit speech-like sounds, and the first thing it said was, 'Bowley' (the name of the previous occupier of his house), then, 'Baily, Baily, down below.' Mr. Baily has promised to tape for me any other interesting utterances. Whether this experience shows that electronic machines are amenable to spirit (or P.K.) influence, or that meaningful messages may be generated by an apparently random process, or both, is not entirely clear.

2. Correspondence.

The week at Bad Krozingen in collaboration with Prof. Resch, originally planned for June, was postponed until late July. This would probably have suited all concerned, but Dr. Raudive was away for the month, 20th June - 20th July, and I missed the opportunity of writing to him to arrange it before he went.

Mr. Peter Andreas told me on 9th June that a top class London medium had offered her services in any research voice recordings that might be done in this country. This offer is very welcome and will be taken up as soon as I have the requisite equipment available.

Mr. Philip Rodgers drew my attention to some experiments which had detected a small weight loss (c. 60 gm.) occurring at the moment of death. He thought that this indicated that the 'astral body', although diffuse, was physical, and might therefore be able to interact on occasion with the material world.

Mr. H. W. Topham (St. Neots) wrote on 6th July about some experiments conducted by a friend of his, an experienced professional radio and electronics engineer, to discover more about the 'diode' and 'auto-transmission' recording methods. I wrote back suggesting a meeting with him and his friend, but I have not heard from him since.

3. Information Received.

In a review of *Breakthrough* in the Summer 1971 issue of *Light*, Mr. Norman Gaythorpe said that a tape recorder, under suitable conditions, could pick up local telephone conversations (as well as distant radio programmes).

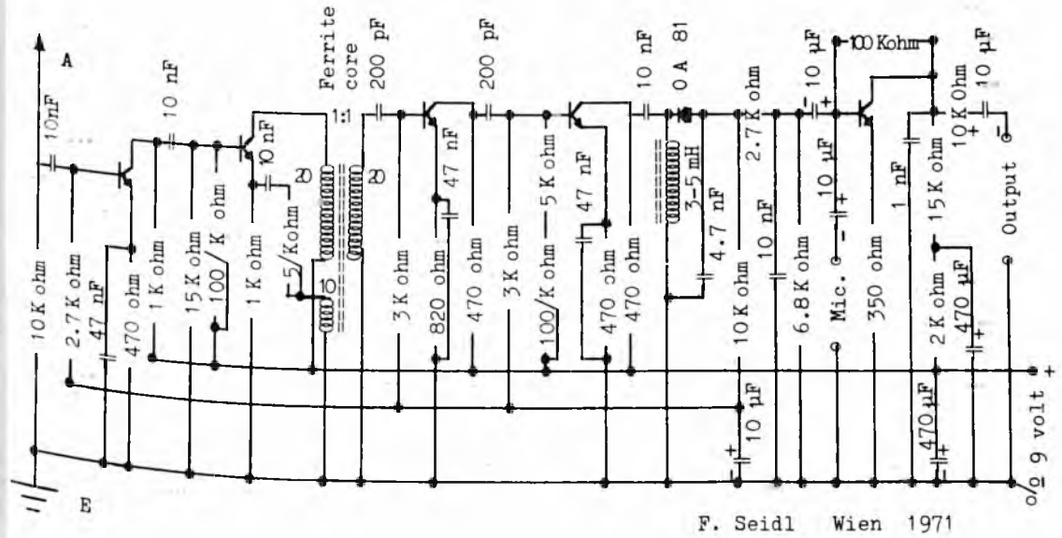
A friend pointed out that there was a reference to the voice phenomenon in *The Travellers' Return* by Grace Rosher, and I quote the following brief extracts (communicated from Mr. Gordon Burdick by automatic writing):

"(2.11.63) You have read of voices already heard in Sweden by a man through his radio and from the air, like the phenomenon called 'Direct Voice'. We have been trying for a long time to do this, as you know...so far, those (on this side) who have succeeded...have done so by reducing their own vibrations down to the physical level. (July 1965) I think that if we continue to persevere in sending out radio messages that can be picked up by your machines... (7.3.66) But what is really needed is the finding and harnessing of a much higher frequency than is yet known on your side."

Prof. Bender has kindly agreed to his paper in *Zeitschrift.... I2* (4) and another paper due to be published soon, describing his work with Mr. Jürgenson, being

published in English in the *Journal of Paraphysics*, and it is hoped that the translation will be ready for publication early next year.

Ing. F. Seidl sent me the circuit diagram of his Psychofon Adapter reproduced below: -



Resistors connect the points between which their values are marked.

Resistors: ¼ watt, low noise Capacitors: 12 - 15 Volt working.

Transistors: npn 1 - 4: high frequency, e.g. BF 194, 166, 175, 167 5: BC 147 (L to R)

The circuit should be constructed in a roomy all-metal screened box.

4. Other Sources of Voice Recordings.

I visited Mr. and Mrs. ---- again on 10th June. Since my last visit they had acquired a Tandberg stereo tape recorder and used it at sittings, with one microphone for the medium and one for Mrs. ----, who were some distance apart. The 'extra words' mentioned in Report 6 (p.32) definitely seem to come from the medium and not from Mrs. ----, and take the form of a clear whisper, 'his mother'. Mrs. ---- asked if I had any better ideas regarding the placing of the microphones, and I suggested that a chair be provided next to the medium for the spirit communicator to sit on, with one microphone directed at this and one at the medium. Mrs. ---- kindly allowed me to copy her collection of 'extra words', and a number of people listening to them have recognised the word, 'mother', without prompting.

Some people in Norfolk reported a strange voice which had appeared on their tapes, speaking what appeared to be German, but in a rather unusual dialect, which a German-speaking friend had been unable to understand. The voice was heard above the lecture on the tape and at times seemed to be responding to it. As they were unable to send me a copy, I visited them on 29th June to hear it, and soon discovered that the strange voice was in fact English backwards, produced by playing a four-track tape on a two-track machine, its sudden appearance being due to confusion between the four-track original tape and the two-track copy.

My friend, Mr. G. Croom-Hollingsworth and his team made some further recordings in Borley church between about 2 a.m. and 3.30 a.m. on Sunday, 27th June, this time using a brand new tape. The microphone was delicately balanced on the altar rail and the recording sensitivity of the cassette recorder used set to maximum. For the first half-hour recording my friends sat outside in their car, and for the second they sat in the church and listened. There was no moon and it was very dark. On several occasions on each recording there occurred a sequence of low-frequency explosive sounds, rather like a motor-cycle engine, starting slowly, speeding up and then dying away. If these had come from a vehicle, Mr. Hollingsworth and his friends would have seen it when they were outside. The heaters, the only apparatus on a time circuit, were all switched off and stored away. Mr. Hollingsworth said that when they were inside the church they could hear the sounds, which seemed to originate near the organ (half-way down the church on one side). So far, they are unexplained.

16th October 1971

REPORT 10

General Observations

1. Some Misconceptions.

It has often been said that the voices recorded by Dr. Raudive are at 'twice the speed of normal human speech'. I have found no evidence for this rather meaningless statement. Some of the voices do sound like high-pitched squeaks, but others are quite slow and easily heard: there is a wide range of speeds. And what is the speed of human speech anyway? It depends on the nationality of the speaker, whether or not he or she is excited, engaged in animated or quiet conversation or delivering a lecture, and so on. Given these possible variations, I do not think that any case can be made for saying that the voice phrases differ markedly in speed from normal speech.

Some people think that Dr. Raudive processes the voice phrases before presenting them: that he 'slows them down' or 'boosts' them in some way. All he does is copy them a number of times onto a second tape recorder: he may make them a little louder by turning up the input sensitivity on the second recorder, but that is all. On the other hand, there is no denying that he edits his recordings by selecting the phrases which he copies: he alone is the arbiter of where one phrase ends and another begins. The investigator is presented with the edited copies and rarely allowed to hear the complete, unedited, original recording. Related to this is the question whether music is ever recorded: undoubtedly it is, but it can be heard only on the original tapes, as Dr. Raudive can hardly be expected to copy out samples for the listener to identify as his favourite programme! On the other hand, it is doubtful whether a lot of music would be expected even if it were assumed that Dr. Raudive is merely picking up radio broadcasts, because he tunes his apparatus so that he does not hear any, and when the signals concerned are faint, speech is easier to hear above the background noise.

It has been claimed that the characteristic rhythmic quality of the voices is enough to distinguish them from normal radio transmissions, but is this really so? The rhythm may come from the speaker's own enunciation or it may be characteristic of the method Dr. Raudive uses, which involves catching fragments from stations to which the radio is not properly tuned. It would therefore be sensible to assemble a collection of off-station fragments, and see whether they sound any different from the voices recorded by the radio method.

2. Content of Voice Phrases.

Up to now I have considered this question to be of secondary importance to the problem of whether or not the voice phrases can be shown to be paranormal by other means. If a voice is paranormal it is interesting whatever it says: whether it utters words of wisdom or makes some trivial, trite remark. On the other hand, if it is not certain that a given voice phrase is paranormal, it is hard to imagine what it might say that would be sufficiently convincing. Few, if any, of the thousands of voice phrases recorded and catalogued by Dr. Raudive are what psychical researchers call 'evidential' - providing information not known to (or reasonably capable of being guessed by) those present, but subsequently found to be correct. Before citing the voices' concern with ideas which are not commonly expressed except by discarnate communicators and those familiar with their teachings, it must be remembered that Dr. Raudive, having been interested in the subject for 25 years or more, might project these ideas into his interpretations. Critics indeed suggest that Dr. Raudive is making 'sense out of nonsense' by using his knowledge of languages and imagination to extract a meaning from incoherent and incomprehensible sounds. They may well be right for some - or many - of the voice phrases. That they are not always right can be shown only by independent verification of his interpretations, which, unfortunately, is not often done. It has already been suggested in Report 8 that this is one of the most serious problems in the research. It is a pity that Dr. Raudive does not seem to think it important. The alternative suggestion that by faulty interpretation Dr. Raudive is making nonsense of what originally had meaning is not so popular, but there is some evidence to support it. The voice now agreed to say, 'make thee mightier yet', but originally interpreted as, 'make believe, my dear, yes', is a good example. Perhaps some of the other voice phrases would be less banal if interpreted correctly!

The banality and triviality of most of the examples quoted in *Breakthrough* has attracted much critical comment. But is this really justified? The brain's capacity for dramatization (exemplified whenever we dream) is very probably used by mediums to make their messages sound sensible and coherent. But what was the original signal from the discarnate entity (assuming such to be present) like? Might it not have been short and cryptic - like the voice phrases?

I have always found it hard to understand the utter lack of cooperation from 'the other side' in the problem of interpretation. If the voice entities' utterances are misinterpreted as often as I fear they may be, why do they bother to speak at all? Or are they merely talking to each other and not trying to impress the tape? Is Dr. Raudive just an eavesdropper? The phrases quoted in *Breakthrough* suggest the very opposite. Secondly, if speech is so hard to hear, why do they not resort to some simpler expedient, such as the use of Morse code? Or why do they not repeat each word several times, to make sure that it is heard and understood? One might suppose that the answer lay in the fact that communication is generally agreed to be a difficult operation. Perhaps it is hard enough for the communicator to remember what he has to say, without having to translate it into Morse code as well. Perhaps he cannot hear how his voice sounds on the tape. Another answer might be that most of the voices are spurious, being random sounds or fragments of radio transmissions, and that only a few are genuine. These latter might be relatively clear and therefore usually interpreted more or less correctly. Alternatively, if the voice phrases are derived from Dr. Raudive's own mind and transferred to the tape by psychokinesis, no cooperation would be expected, particularly as he believes his interpretations to be correct. One wonders, in this case, what would happen if he were to learn the Morse code: would he subsequently obtain messages in it?

3. Research Programme.

(1) The aims of my research programme may be summed up simply: -
to find out as much as possible about the phenomenon, in particular to study Dr. Raudive's work at first hand and to find out, by discussion with those concerned, what experimental work has been done already (so that duplication of

effort be avoided), and to obtain full details of the apparatus used for recording the voices.

(2) by suitable experiments with Dr. Raudive to establish whether or not the effect is genuinely paranormal, and to discover what I can about its mode of operation and to try to improve the quality of the recordings if I find that it is.

I have not spent much time making my own recordings and trying to obtain my own voice phrases, because I think it is more important to study Dr. Raudive's own work: it is he (and Mr. Jürgenson, of course) who claims to record these voices, so the first problem is to find out whether in fact he does. Another, less important, consideration is that mediumship may be involved if the phenomenon is genuine, and it may be possible for this mediumship to be developed: Dr. Raudive himself made recordings for three months before having any success. If I should develop such mediumship myself, it might become a confusing factor in experiments with other people.

It has been rather disappointing to discover that, apart from Prof. Bender's work with Mr. Jürgenson, very little experimental work seems to have been done. Moreover, there is often confusion between what has been done and what ought to have been done. Everyone seems to have been aware of the possibility of picking up radio transmissions, but practically no steps have been taken to eliminate it. The only way to be sure is to conduct tests in a properly screened environment, but as screened rooms are expensive and immobile and as Dr. Raudive lives a long way from Enfield, where I have been offered the use of one, it is hard to get the two together! The experiment conducted on the one occasion when I succeeded (see Report 6) was inconclusive because it was not possible to control the outside environment and prevent sounds and voices from outside being recorded.

Until experiments conducted under these conditions produce positive results, I feel that voice-prints or visible speech diagrams have limited usefulness. Certainly they can help to confirm the objective existence of a voice and clarify its interpretation, and they can often show that it was not uttered by anyone present. But they cannot really distinguish between a genuinely paranormal voice and radio pick-up.

4. Recording Devices.

The Goniometer is the most interesting of these for two reasons: firstly because it has produced a collection of voices which are far clearer and louder than any recorded by Dr. Raudive by any other method, and secondly because it has been developed by Ing. Rudolph in collaboration with 'the other side', with which he communicates by means of his pendulum. An interesting characteristic of some of the clearer Goniometer voices is that their interpretation is almost unambiguous, yet their meaning is obscure. They seem to be in German, but some of the words are incomprehensible or used in a strange manner. For example, 'die gepulkten Menschen qual', 'anstrengen die Menschenmassen'. This would appear to make it unlikely that they originated from a German radio station, but it is possible that they are in fact in another language, e.g. Flemish or even English. When the circuit diagram of the Goniometer is examined it appears to be a fairly straightforward radio receiver. The aerial is connected to a pair of crossed ferrite rods standing on a large permanent magnet. The input circuit resembles that of a phase-lock-loop detector, except that the phase-locking circuit is missing, which would probably have the effect that the tuning would drift onto and off a station of suitable wavelength.

The Psychofon is a high-frequency wide-band receiver which incorporates an oscillator which acts as a short-range transmitter. It is an excellent instrument to use inside a screened enclosure, but outside it could hardly be considered immune from radio interference.

The 'diode' is another broad-band receiver and it is claimed that its aerial is too short to receive signals even from strong nearby stations. This surely depends on what is meant by 'receive'. One would not expect a loud clear signal, but with the amplification available in the tape recorder one might expect a very faint effect: after all, Dr. Raudive says that the signals he receives by this method are extremely faint and have to be played back and copied at maximum volume.

5. Is Dr. Raudive a Medium?

A clear answer to this question would go far towards solving the whole problem of the voices. If it could be shown that Dr. Raudive or Mr. Jürgenson exerted a mediumistic influence on the recordings, it would more or less establish their paranormality. But both claim that they are not mediums and that 'anyone' can record the voices. Indeed, an increasing number of people seem to be doing so, although whether all or any of the effects they record are genuinely paranormal is quite another question. In *Breakthrough* recording experiments are described in which other people operated Dr. Raudive's apparatus in his absence and still recorded voices. This would appear to confirm that he is not a medium, but if, as has been suggested earlier, most of the voices are of natural origin and only a few genuinely paranormal, there is no guarantee that any of the voices recorded in Dr. Raudive's absence were paranormal.

During January and February this year I made a number of recordings with the publishers, Messrs. Colin Smythe and Peter Bander (see Report 4). We were not so much concerned with eliminating all natural causes as with seeing whether we could record any voices at all. The voices recorded were so faint that I described the hearing of them as 'coming in at thought level'. Dr. Raudive came to England in March, used the same apparatus in the same house and obtained some quite audible voices. Sceptical news men said, "O.K., I'll buy that." when they heard them. They would never have 'bought' ours. This suggests at least that it is an unjustifiable assumption that the voices are independent of Dr. Raudive or that they can be studied properly without reference to him.

6. Theories about the Phenomenon.

Until the phenomenon has been conclusively shown to be paranormal, theoretical speculation is somewhat premature, but some considerations may help in the planning of suitable experiments. Most popular is the idea that the spirit entities modulate or otherwise produce radio signals, either themselves or by operating their own radio station(s). If the spirit action takes place near to the apparatus or at least in the same room, voices should still be obtained in a screened room if a suitable radio-frequency carrier wave is provided for them to modulate (assuming they need one). On the other hand, if their action is distant, screening would cut off the voices. In this case it would be hard to prove that the voices were due to spirit action: the case would have to rest on the content of the voice phrases, which in turn depends on accurate interpretation. It is equally true, of course, that one cannot prove that voices are not due to spirit action; for example, if a spirit entity said, 'Here is the News', one would naturally assume that one was listening to a radio broadcast. Although one must adopt the latter explanation because it is simpler, it is not necessarily correct.

The alternative paranormal explanation to direct spirit action is P.K. from the living. In this case screening should not eliminate the voices - even if messages are received telepathically from spirit entities - but it would be interesting to see whether voices were still obtained with Dr. Raudive outside the screened room. Except for Prof. Bender, the second explanation is almost universally rejected. Admittedly it is less romantic. Presumably misunderstanding the implications of 'paranormal', people ask how the human mind can possibly affect a tape recorder? But the

difficulties are the same, whether the P.K. is from the living or from the dead. Other physical phenomena: direct voice, levitation, even poltergeist disturbances, all seem to require the presence of a suitable 'medium', which suggests that direct interaction with matter by spirit entities is not possible. If they themselves cannot affect the apparatus, why should their radio stations be any more successful? How can a spiritual transmitter emit a material wave? These problems seem to have been overlooked by the advocates of the 'spirit radio' theory. A more general theory has been discussed in Report 3 (p. 22). If the voices are produced by some form of physical mediumship, it is likely that this will require development on the part of the medium, and practice and expertise on the part of the communicating spirit entities. It would be naïve to suppose that it was necessary only to have a tape recorder running for any discarnate spirit who happened to be around to be able to record his voice on it.

7. Some Positive Indications.

Despite the rather discouraging general picture, one or two occurrences give one cause for hope that the voice phenomenon may be genuine. The first is Mrs. ----'s collection of 'extra words' (see Reports 6 & 9). Unlike other direct voice effects, such as those of Mrs. Leonard, these whispered voices are not heard at the time of recording. Some are sufficiently clear to be interpreted unambiguously, and their relevance to the proceedings would seem to rule out chance pick-up of radio or other voices. If the medium whispered them herself, how is it that they often express the very word or idea which she could not quite grasp? And why didn't Mrs. ---- hear her? Promising also is the possibility of recording voices in buildings said to be haunted. Although Borley church has so far produced only a number of strange noises, a visit to a haunted house in Enfield (to be described in Report 12) yielded quite a clear whisper. (Go out! Go out! Stay out. Get..') Although the voice was claimed to resemble that of someone present, someone else was talking (to her) at the time. The only reasonable explanation would be that a neighbour was putting out the cat! But why should the voice sound like a hoarse whisper close to the microphone? Further recordings will be made in similar circumstances, if possible with better safeguards (e.g. control recorders) to check for alternative explanations.

21st December 1971
(from notes made in August and September)

REPORT 11

Plans for Experimental Work

Outline Plans.

1. Precautions and General Experimental Arrangements.

(a) make normal recording on R's equipment at the same time (except 5, a-c).
(b) separate microphone with battery tape recorder in screened box to monitor sounds in the room.
(c) demagnetize tape heads on R's equipment.
(d) moving-coil type microphones to be used unless otherwise specified.

2. Microphone Recordings.

(a) 4 microphones with 4-track in-line tape recorder (4 simultaneous channels), vary position of microphones: corners of room, near to experimenters, etc.
(b) 2 microphones with stereo tape recorder (if 4-track in-line not available).

3. Modified Microphone Recordings.

2 microphones with stereo tape recorder and radio-frequency filter across inputs: this should prevent the microphones and cable from acting as aerials and picking up radio broadcasts, etc., which are then demodulated in the tape recorder.
(a) r/f filter across one input only.
(b) one microphone in anachoic (sound-proof) box.
(c) one microphone replaced by crystal microphone.
(d) one microphone replaced by equivalent electrical circuit.
(e) from one channel only
  (i) replace microphone with equivalent resistor.
  (ii) cut off power to amplifier.
  (iii) disconnect bias oscillator.
  (iv) disconnect everything.
(f) as (e, i-iii) but simultaneously, using 4-track in-line recorder.

4. Other Recording Methods.

(a) microphone in anachoic box with acoustic noise source, e.g. air escaping.
(b) electronic audio-frequency noise generator.
(c) tape of R's voice many times superposed
  (i) acoustically from battery-operated tape recorder
  (ii) direct from battery-operated tape recorder
  simultaneously on each of two stereo channels.
(d) artificial inter-frequency source (pulse generator in screened box) via R's radio to
  (i) R's tape recorder.
  (ii) our tape recorder, one channel.
  (iii) second channel our recorder by microphone.
(e) battery- (accumulator-) operated tape recorder with input as (3ei) in screened box (Mr. Tobler's equipment).

5. Other Tests.

(a) record while R finding 'white noise' for normal radio method.
(b) copy complete recordings (i) DJE 22.9.70 (ii) Else Kolbach 26.9.70.
(c) make recordings when R not aware nor expecting nor intending to make recordings
  (i) in R's house.
  (ii) elsewhere in Bad Krozingen.
(d) recording experiments in morning, afternoon, evening and late evening: any differences in voices obtained? is one time better than the others?
(e) table-tilting 'séance'
  (i) quality of results obtained.
  (ii) possible technical information from communicating entities.
  (iii) possibility of obtaining raps.

N.B. R = Dr. Konstantin Raudive.

Explanatory Notes.

1. (a) This is designed to eliminate effects due to the apparatus used: to find out which of the voices obtained by Dr. Raudive with his own equipment can be recorded independently on other equipment.
(b) These sounds can sometimes be mistaken for voices.
(c) It has been suggested that a recording head magnetized through constant use can cause tape noise which might be interpreted as voices. Clearly, such spurious effects should be eliminated.
(d) These microphones are leest likely to detect or rectify radio signals.

2. Although much more desirable, 4-track in-line tape recorders are very expensive and difficult to obtain. There is a remote possibility that I might be able to borrow one. Use of more than one microphone can help to locate the source of a sound if the time difference between the signals arriving at different microphones can be measured. A radio signal would be expected to affect both microphones simultaneously: hence if there is a time difference the signal must be of acoustic origin.

3. It is well known that non-linear elements in a tape recorder amplifier can demodulate and extract the audio signal from radio transmissions. My own recorder picks up messages from local hospital cars, and radio programmes in French and German. The experiments in this section are designed to try to find out first what effect the microphone has on the voices and secondly on what part of the recording system the voices impinge. Use of the 4-track in-line recorder would be a considerable advantage, as the various tests could then be applied simultaneously, i.e. to the same voices.

4. (a) - (c) These are various ideas to test whether provision of a suitable noise source might help in the production of the voices, as originally suggested by Mr. A. H. Reeves (see Report 1, p.12). (a) and (b) were suggested by Mr. Lovelock and Mr. Hale, and (c) by Prof. Schneider.

   (d) This was a suggestion by Mr. J. de Rivaz (Reeves Telecommunication Labs.). The idea was to provide an effect similar to tuning between radio stations while at the same time cutting off outside signals by suitable screening.

   (e) Mr. Tobler told us in May that he had developed this apparatus and succeeded in obtaining voices with it, I have written to ask if we may borrow it.

5. (a) This is simply to obtain a permanent record of Dr. Raudive's tuning technique.

   (b) Both these sessions produced some remarkable voice effects. Only by examining the complete original unedited recordings can they be properly evaluated.

   (c) This series is designed to find out whether Dr. Raudive exerts a mediumistic influence on his recordings (which he claims he does not). Are voices obtainable all the time or only when he is trying to get them? Can we record as many in his absence as when he is with us? It is planned to run the recorder without him knowing during analysis sessions and normal conversation, and to make recordings in our hotel at a time when he would not expect us to.

   (e) If Dr. Raudive has any mediumistic gifts, particularly of a physical kind, it is possible that these may manifest at a simple séance.
   Dr. Andrija Puharich has suggested that someone who could obtain paranormal voices on tape might be a table-rapping medium.

The experiments outlined above will require a large number of recordings, made under the different conditions specified, for any worthwhile results to be achieved. For these to be done within the space of a few days to a week, it is obvious that no time should be wasted on unnecessary digressions. It is therefore proposed to postpone analysis of all the tapes - except for the briefest of inspections - until our return to England. The analysis, anyway, is a very exhausting procedure, and it would be foolish to jeopardize the success of the recordings by allowing Dr. Raudive or ourselves to become overtired.

24th September 1971

REPORT 12 August and September 1971

Further Progress.

1. Correspondence.

Dr. Raudive suggested the first week in November for the experimental session at Bad Krozingen, and Miss Mary Driver and Mr. Manfred Cassirer of the Paraphysical Laboratory have agreed to come with me. Prof. Resch is unlikely to be able to come, and Prof. Schneider is doubtful, but I am hopeful that Dr. Geir, a physicist from Balzers, will be able to come for a few days, and possibly also Dr. Hans von Noorden. Even if the latter is unable to attend we shall visit him before and after the experiments for discussions.

I wrote to Mr. Tobler in August inviting him to join us, and wondering whether, if this was not possible, we might be able to borrow some of his apparatus? I also sent him a tape onto which I hoped he might copy for me some samples of his voices.

Mr. J. de Rivaz (Barnet) wrote telling me of the legend that fishermen will not visit the beach at Porthtowan in Cornwall at night because they say they can hear the voices of dead sailors calling to them from the sea. He suggested that this effect (white noise of breakers on the beach) might have sufficient parallels with the voice phenomenon to merit investigation.

Mr. Richard Gill (London) wrote about his attempts to record voices by microphone and 'diode', and wondered whether his results resembled those achieved by Dr. Raudive. He had written to Dr. Raudive asking him to request his communicators to manifest for him, and two or three days later he had heard the words, 'Kostja' and 'Zenta' on his tapes.

2. Information Received.

In his review of *Breakthrough* (*Journal of the S.P.R.*, September 1971), Mr. John Cutten discussed a number of the problems and made out a convincing case for not being convinced by the evidence presented in *Breakthrough*. It is not the aim of the present research to disregard these problems, but to find out whether, despite the many alternative explanations and misinterpretations, there is any underlying paranormal phenomenon.

A detailed and comprehensive questionnaire for everyone recording voices to complete and return to her was included in Mrs. Hanna Buschbeck's Report 13.

Mr. S. E. Brown, Liaison Officer, Eastern Australia C.F.P.S.S., wrote describing experiments on the diode circuit with a signal generator and oscilloscope. He had identified a number of stations in the range, 100 KHz. to 50 MHz. He thought that the tape recorder bias oscillator could play a significant rôle in the reception of the voices.

Dr. Andrija Puharich was in London at the beginning of September and I had a very useful and encouraging discussion with him on September 10th. He had just spent four days visiting Dr. Raudive and had been much impressed with the phenomenon. He hoped to be able to interest people sufficiently to mobilize funds for research and equipment.

3. Experimental Work.

The proposed experiments at Bad Krozingen were discussed with Dr. G. Geir when he visited London on September 16th. It was agreed that if it could be shown that Dr. Raudive exerted any mediumistic influence on the phenomenon, the case for regarding it as paranormal was strengthened.

Discussions were also held with Mr. J. de Rivaz on 14th September, and with Mr. R. T. Lovelock and Mr. A. P. Hale at Belling and Lee Ltd. on 21st September. Suggestions made have been included in the experimental plans described in Report 11.

4. Other Sources of Voice Recordings.

Mr. Cassirer invited me to accompany him on a visit to a haunted house in Enfield on 15th September. After interviewing the chief percipient for about an hour and hearing about typical poltergeist disturbances we made some short recordings in what was believed to be the most haunted part of the house, the kitchen and bathroom on the ground floor. The first recording included a loud crash, which might have been made by the dog outside the back door trying to get in, but was louder and more prolonged than the other noises it made. The dog was let in and taken upstairs before we made the second recording, which included a hoarse whisper, 'Go out! Go out! Stay out. Get..', superimposed on the conversation in the room, which could be heard in the background. The voice sounded very like that of the chief percipient, so it could conceivably have been part of our conversation, although it seems quite separate and nearer to the microphone. Moreover, Mr. Cassirer can be heard in the background talking at the same time. Further recordings were made with a second recorder running in the room with us, but unfortunately no more such effects were recorded.

5. Publicity.

On 8th and 22nd May, 'The Late Late Show' on Irish Television was devoted to discussion of the voice phenomenon with Mr. Peter Bander.

Mr. Bander told me that sales of *Breakthrough* had been very satisfactory and that they had 'broken even' during the first week in June.

17th October 1971

Report 12 concludes the second six-month period of the Studentship, now renewed for a further year. Ten days on the Continent had resulted in a considerably greater familiarity with the voice phenomenon, and friendly meetings had been held with a number of workers there. Although it had not been possible to continue the experiments with Dr. Raudive in England in a screened enclosure, plans had been made for a week's experiments at Bad Krozingen. These included as many as practicable of the ideas from the original plan of study. Listening to Dr. Raudive analysing one of his radio recordings had thrown considerable doubt on the validity of the radio voices, and discussions had shown that interpretation of the voices represented a major problem. No longer was listening to the voices a matter of training one's ear to detect them; there were serious difficulties in reaching any accurate objective transcription at all. This meant that the theory that the radio voices were paranormal because of what they said was quite untenable. Friends interested in electronics had examined the circuits for several of the radio devices and declared it very likely that all would pick up terrestrial radio signals more or less indiscriminately.

With this weight of evidence undermining confidence in the reliability of voices received by radio methods, it is not surprising that the experimental work planned dealt mainly with microphone voices.

GERMANY, SWITZERLAND, AUSTRIA

REPORT 13

29th October to 14th November 1971

Preliminary.

This report deals in general with my visit to the Continent with Mr. Manfred Cassirer and Miss Mary Driver of the Paraphysical Laboratory. The visit was arranged primarily for the purpose of conducting experiments (described in detail in Report 14) with Dr. Raudive at Bad Krozingen, but during the second week a number of visits were also made to other workers concerned with the voice phenomenon, in Germany, Switzerland and Austria. Mr. Cassirer's company, assistance, knowledge of psychical research and fluency in German were again invaluable, and Miss Driver's company and help were also much appreciated.

Timetable.

date	travel	person visited	at	from
Thu 28.10	to Dover			
Fri 29.10	Ostend to Baden-Baden	Dr. Hans von Noorden	Baden-Baden	1415 - 1800
Sat 30.10	B-B to Bad Krozingen	Dr. Konstantin Raudive	Bad Krozingen	1800 -
Sat 6.11				
Sun 7.11		"	"	- 2230
Mon 8.11	Bad K to Freiburg & back	Prof. Dr. Hans Bender	Freiburg i.Br.	1630 - 1915
Tue 9.11	Bad Krozingen to Lyss	Dr. Theo Locher	Brügg b. Biel	1900 - 2230
Wed 10.11	Lyss to Salzburg			
Thu 11.11	Salzburg to Wien	Ing. Franz Seidl	Wien	1730 - 2230
		Mr. W. P. Mulacz	Wien	1030 - 1200
Fri 12.11	Wien to Salzburg			
Sat 13.11	Salzburg to Horb	Mrs. Hanna Buschbeck	Nordstetten	1900 - 2215
		"	"	1100 - 1215
Sun 14.11	Horb to Ostend			
	Dover to Downton	Paraphysical Laboratory		0810 -

Details of Visits.

1. Dr. jur. Hans von Noorden.

We spent a pleasant afternoon with Dr. von Noorden and discussed the voice phenomenon. He had visited Dr. Raudive and allowed us to copy the edited versions of the voices they had obtained. Dr. von Noorden's chief interest in the phenomenon lay in its theoretical implications and he had written an article about these, entitled, "A Visit to Konstantin Raudive", and hoped it would be published soon. He questioned me about my reports: I had quoted (Report 2, p.15) Dr. Raudive as saying that the voice entities communicated with us telepathically - where was the evidence that the experimenter received telepathic impressions from the spirit entities? My theory that the experimenter might receive messages by telepathy and impart them to the tape by psychokinesis (Report 3, p. 22) was too demanding: it required everyone who received the voices to become a two-fold medium; telepathic and psychokinetic. Dr. von Noorden preferred to think that the spirit entities might affect the tape directly, without the help of the experimenter, by a process which he called 'transcendental P.K.' He hoped to assemble a team of experts to study the phenomenon further.

2. Dr. Konstantin Raudive.

Early sessions were devoted to general discussion of the voice phenomenon and to Dr. Raudive playing us samples of voices which he had recorded since we last met. These included a number from the visit of Dr. Andrija Puharich in September. We were not always able to agree with Dr. Raudive's interpretations, nor even to concede that all the sounds recorded were in fact voices, but we did not feel that it was worthwhile to argue about them. In one case, however, we were able to point out that a voice to which Dr. Raudive had fitted Latvian words/syllables (but had not been able to establish the meaning) was in fact the strongly American English of Dr. Puharich making a note of the time! I wanted to take a copy of the recordings made with Dr. Puharich, but Dr. Raudive would not permit this.

Detailed Timetable

date	time	session
30.10.71	1800 - 2300	(a)
31.10.71	1000 - 1300	(b)
	1600 - 2030	(c)
	2130 - 2500	(d)
1.11.71	1000 - 1200	(e)
	1800 - 2500	(f)
2.11.71	1000 - 1400	(g)
	1820 - 2105	(h)
3.11.71	1000 - 1300	(i)
4.11.71	1000 - 1320	(j)
	1730 - 2200	(k)
5.11.71	1000 - 1400	(l)
	1600 - 2300	(m)
6.11.71	1000 - 1230	(n)
	1615 - 1710	(o)
	1950 - 2230	(p)

We discussed our experimental programme in session (c) and it soon became apparent that agreement would not be reached over the crucial question of when the analysis was to be done. In Report 11 (p.53) I proposed that, as the detailed analysis is exhausting and time-consuming, it should be postponed (apart from the briefest of inspections of each recording) until my return to England. When I wrote to Dr. Raudive in July suggesting these experiments, I explained that I intended to spend most of the time making recordings, and to postpone the analysis until afterwards so as to avoid tiring ourselves, which we knew affected the results adversely. It therefore came as a considerable blow when Dr. Raudive insisted that the complete analysis be undertaken immediately after making each recording. He said that we could not do the analysis ourselves: we were not competent and we did not know Latvian. To prove his point, he played us some of a previously made radio recording and asked us to interpret it, then showed us how different our results were from his!

At one point it seemed that we would not be making any recordings at all, and our week would be entirely wasted, but eventually Dr. Raudive agreed to a microphone recording on our apparatus. Near the end of the recording I asked our spirit friends what they thought should be the next step in the voice research. After my question, a clear reply, 'Tactful', could be heard on the tape. Paranormal or not, this was very apposite and led to a considerable improvement in our relations! Unfortunately, however, it did not result in Dr. Raudive revising his feelings about the analysis, and although we made some recordings during the next few days, more or less according to plan, we were able to complete only a small fraction of the number planned. As the analysis of each five-minute tape took at least an hour, after which we were thoroughly exhausted, it was not possible to make more than one or two recordings in each session. Nevertheless, some useful results were obtained, and our understanding of the phenomenon advanced. Dr. Raudive was in fact very pleased with the voices we obtained, and frequently asked me to cooperate in producing edited copies for his records. Full details will be given in Report 14.

At the end of the week Dr. Raudive called together a number of his friends and collaborators: Miss A. Morgenthaler, Dr. Zenta Maurina, Mr. J. M. Meier, Dr. Hans von Noorden, Dr. Arnold Reincke, Pfr. Leo Schmid and Mr. Norbert Unger, and held a 'mini-symposium' on the voice phenomenon. During sessions (m), (n) and (o), short talks were given in turn by those present, followed by discussion. I described the experiments which we had just done and played some samples of the voices; Mr. Cassirer expounded the substance of an article which he had written for the

journal, *Light*, in June. Dr. Zenta Maurina discussed the philological side of the phenomenon, and said that it was not the physical hearing but the 'psychic hearing' which was important and which Dr. Raudive (her husband) had developed to a remarkable degree. She said that the function of medium was performed by the tape recorder rather than the experimenter.

During tea on 6th November a short microphone recording was made and a number of voices found on it. I was able to discuss with Dr. Reincke the methods of interpretation and verification of the voices which Dr. Raudive records. Dr. Reincke, who has listened to and analysed over 7,000 of the voices, said that there were a few occasions when he and Dr. Raudive had interpreted the sounds independently and, as far as he could remember, there was usually fairly substantial agreement between them. To our surprise, neither he nor anyone else present seemed to think that this ***independent*** verification was particularly important, and it was apparently done only as an isolated test. My suggestion that the voices be classified according to the percentage of listeners who gave independently the same interpretation did not find any support.

Despite our various differences of opinion, a cordial and friendly atmosphere pervaded our time with Dr. Raudive, and we parted on the best of terms.

3. Prof. Dr. Hans Bender.

We discussed the objectives of our visit to Dr. Raudive. Prof. Bender said that at present we needed physicists, to demonstrate clearly that there were voices and that the voices on tape could not be explained by any means of physics. The second step was to discover where the voices were coming from: one theory was that they were produced by the experimenter. The claim that they came from 'the beyond' could not be proved by decisive experiments, but, as Mr. Cassirer pointed out, this was a secondary consideration, and it would be enough to start with if it were proved that the voices were of paranormal origin. Prof. Bender said that for his Institut the next step was to try to discover, by appropriate experimental design, where the P.K. influence was acting: it did not seem to be the microphone as voices were also obtained by radio methods. Miss Driver asked whether they were confident that some of the radio voices were indeed paranormal and not snatches of programmes, and Prof. Bender agreed that this was harder to prove: there was always the possibility of the experimenter projecting his own text onto the broadcast words. Although cases of such projection undoubtedly occurred, this did not mean that genuine voices could not be recorded as well.

Prof. Bender pointed out that reception of voices was not confined to Mr. Jürgenson and Dr. Raudive; there were Pfr. Schmid in Switzerland, Ing. Seidl in Vienna, and, according to Mr. Jürgenson, seven others in Sweden. The phenomenon seemed to be repeatable, a few voices being recorded on each of their visits to Mr. Jürgenson, although it was not always possible to decide whether they were paranormal. Mr. Cassirer said that he was impressed by cases in which Dr. Raudive asked a particular person to manifest and subsequently the name of this person was clearly given. Romani Nimowald was a good example. We discussed details of our experiments with Dr. Raudive, including the use of the stereo recorder with two microphones.

Prof. Bender said that he would probably publish a very short article on their most recent investigations with Mr. Jürgenson - these were exploratory experiments to find out the best technique for locating the point of action of the P.K. influence. To economise on voices it was necessary to use simultaneously a number of tape recorders - or channels of the same recorder - each prepared in a specific way. For one set of experiments they had used a two-channel recorder with its inputs connected to microphone and radio respectively. The results were still being evaluated but some recordings, perhaps of voices, had been found on the microphone tape but not on

the radio tape. During another recording they had been discussing the effect that a noise on the tape often turned out to be a voice when played back at half speed, and when the tapes of this session were played back one recorder only was found to have their voices at double speed for about two seconds of the relevant part of the conversation! No one could have touched the recorder accidentally: was the effect caused by some telekinetic influence from Mr. Jürgenson?

Prof. Bender and his team journeyed by car to Mölnbo for these experiments and arrived very late at the Jürgensons' residence because they had forgotten about the 70 k.p.h. 'blanket' speed limit in Sweden. During the later part of the journey one of the party had a bad toothache. Mr. Jürgenson meanwhile made a radio recording and received a message in the form of a voice whispering in German, 'Sie kommen bald..... Zahnarzt.....Zahnarzt.' (They are coming soon.....dentist.....dentist.) He played it to them as soon as they arrived. This appeared to be a case of a telepathic impression actually recorded objectively on tape.

I asked whether any recordings had been made when Mr. Jürgenson was not trying to obtain voices - for example letting a recorder merely run in his presence. This might help to show whether he was a medium. Prof. Bender said that they had not done this yet, but it was a problem they had in view, together with establishing the effect of the distance of Mr. Jürgenson from the apparatus. We discussed the relation of the voices to poltergeist phenomena and direct voice mediumship. Mr. Jürgenson has at times heard voices - **auditory** hallucinations - and sometimes these have been recorded on his tapes.

4. Dr. Phil. Theo Locher.

We discussed the interpretation test which Dr. Locher conducted last year and he gave us an English summary of his report. A tape with 20 voice samples was sent to ten people. Dr. Locher listened to the tape many times himself, and composed a standard text with which the other listeners' interpretations were compared by syllables, vowels and letters, the results being: - The four best voices obtained percentages from 40 to 80. More extended tests are planned.

syllables correct: 16.9%
vowels correct: 38.2%
letters correct: 27.7%

We discussed theories of how the voices were imparted to the tape, as Dr. von Noorden had said that Dr. Locher had objected to my suggestion of telepathy combined with P.K. Dr. Locher said that he thought that spirit entities of a low order could extract from the experimenter's mind words whose meaning they did not really understand, and put them on the tape: this would explain the banality of so many of the messages.

5. Ing. Franz Seidl.

After we had had some preliminary discussions about Ing. Seidl's recording apparatus and results, people began to arrive for a recording session. Twelve were present altogether, including a couple (with their teenage son) who had lost their daughter some eighteen months previously. She had disappeared from a camping site, and they hoped to make contact with her or receive information which might help the police to find her. Ing. Seidl made three recordings, each with an introduction and comments and requests from ourselves and the others present. After any questions or comments, short spaces were left for the spirits to answer. A brief check was made of each recording, turning the playback volume up during the pauses so that the spirits' answers could be heard, which gave a dialogue effect. (We were not able to listen to the voices while we were actually making the recording.)

After we had made all three recordings, a preliminary analysis was made by a young lady with good hearing, who listened to the tapes intently. The full analysis would be done, not by Ing. Seidl, but by the young boy. The results were not reckoned to be good and it was thought that recent atomic bomb tests might have affected the

conditions adversely. However, it did seem that my name and possibly that of Mr. Cassirer were repeated when requested. The complete session was copied onto a cassette tape for us to take home.

We then turned to testing Ing. Seidl's levitation apparatus. This was an electronic device which was said to make the subject of the experiment lighter. Four people were to lift him using only one finger each, placed under his knees and armpits respectively. Mr. Cassirer and I assisted in some of the trials: there was no doubt that the man felt lighter when the machine was switched on, although it was difficult to assess the varying contributions made by the other two people lifting. We recommended that scales be used to measure the reduction in the man's weight when the machine was in action.

6. Mr. W. P. Mulacz.

Mr. Mulacz visited us at our hotel in Vienna. He said that he was more interested in the phenomenon itself than in the various spiritistic or non-spiritistic theories advanced to account for it. He did not think it necessary to record or analyse large numbers of voices, but preferred to try different recording methods and simply note whether voices were obtained or not. He felt that Dr. Raudive recorded good voices with the Goniometer because he believed it to be a reliable device.

Mr. Mulacz told us about some experiments which he had carried out with Ing. Seidl's voices: these included use of two microphones connected via a mixer to a mono recorder. One microphone was placed in a sound-proof box and the other used for speaking; introduction, comments and so on. This microphone could be switched out when it was not needed, and a ticking noise in the background provided a check. He had subjected one of Ing. Seidl's voices ('Oh ja') to visible speech analysis, with Ing. Seidl's 'Oh ja' announcing the voice on the (demonstration) tape for comparison. The duration of the former was found to be only one sixth of that of the latter, but when it was suitably expanded and the two voices compared it was not possible to detect any difference. The signal-to-noise ratio for this voice was quite good (30-40 mV : 20mV). Voices relevant to the text had also been obtained when copying tapes by direct lead: the section copied included the name of a man and some more words, on the copy the man's name could be heard twice more, 'A' quality. Mr. Mulacz said that there were several widows in Vienna who obtained voices, but as they were interested only in talking to their husbands it was not possible to conduct experiments with them.

7. Mrs. Hanna Buschbeck.

Mrs. Buschbeck played us some of her recordings and told us about them. She has a Telefunken stereo tape recorder which she uses in mono only, so that less fortunate people will still be able to play her tapes. As a mono machine it seems to be equivalent to a 2-track recorder. Mrs. Buschbeck had discovered some extra voices on tapes recorded on a 4-track machine and sent to her: some of these sounded rather like backwards speech, but it was difficult to explain the technicalities of this to Mrs. Buschbeck, particularly as we were very tired after our drive from Salzburg. Had we felt more energetic we could have brought in our own equipment and tested the hypothesis.

On our second visit we discussed the questionnaire which Mrs. Buschbeck had sent to 65 people who claimed to record voices. She was still evaluating the results, but the response had been encouraging.

8. Paraphysical Laboratory.

During the afternoon after our return some members of Oxford University S.P.R. visited the laboratory and I played them samples of Dr. Raudive's recordings, including the complete sequence from the Goniometer recording made after Mr. Uffen

and I had returned to our hotel on 22.9.70 (see Report 1, p.11). A series of loud, clear voices, beginning, 'Glaube du Cedin' (Believe you, Cedin), and including 'Romani Nimowald Zamuchils' (Romani Nimowald is exhausted/tormented to death), and 'Ich folgu you tonight' (I follow you tonight), was identified as Radio Luxembourg, with which these students were very familiar, and interpreted as follows: 'Hello, this is Kid Jensan' (compere of a programme called, 'Jensan's Dimensions') 'reminding you about Dimensions. Later on tonight on 208: soft Rock, hard Rock, Jazz and Blues. It's all for you, tonight, at one o'clock.'

I had previously wondered whether some of the voices in this section, e.g. 'It's all for you, tonight', were fragments of a radio broadcast, but it was not possible to verify this until the whole section had been listened to carefully a number of times. I was impressed at the time I first heard it by the fact that a voice had warned, 'Wiederum Klemma' (Again clamp), which Dr. Raudive had interpreted as meaning that there would be some (radio programme) interference, and a burst of music and these voices had followed. I thought they were all part of the interference, and I was a little surprised when Dr. Raudive started to interpret them. However, I was prepared to accept that I might have been mistaken. Although I can now hear the English text, 'Romani Nimowald Zamuchils' is still easier to hear than 'reminding you about Dimensions', and it is certainly remarkable that after Dr. Raudive had asked for a message in Russian from Romani Nimowald such a close approximation to a relevant message was obtained. While casting severe doubt on the interpretation of many other, less clear, voices received by radio methods, this example makes Mr. Jürgenson's suggestion that the actual broadcast words can be modulated (by the spirit entities) into other words more understandable.

Once again, I would like to conclude by thanking all those whom we visited for their kind and generous hospitality, and for giving their time to talk to us.

18th May 1972

As in May, we made a number of visits to other experimenters on the Continent. Once again it was most encouraging to talk to Prof. Bender, and to hear about the progress of his work with Mr. Jürgenson. Prof. Bender seemed strongly inclined to the view that voices were obtained only by certain people who were able to exercise some sort of psychokinetic influence. He did not doubt the validity of Dr. Raudive's results, but preferred to work with Mr. Jürgenson, as the latter was more amenable to experimental work. It was on Prof. Bender's advice that we arranged to visit Mr. Seidl in Vienna.

This visit proved to be very interesting. We attended one of the Seidls' informal recording sessions and noted that the analysis would be done carefully at a later date by the person with the best hearing. Unlike Dr. Raudive, our hosts were somewhat apologetic about the quality of the results obtained while we were there. But it was quite clear that Ing. Seidl and his friends had complete faith in the ability of their apparatus to produce paranormal results. We also enjoyed our discussions with Mr. Mulacz and were heartened to hear about his experimental work.

Finally, after 3000 miles' travel, we returned to the Paraphysical Laboratory. With us we had copies of the original tapes of two of Dr. Raudive's Goniometer recordings, obtained only by the exercise of a great deal of diplomacy and patience. The students from Oxford University S.P.R. provided the requisite enlightenment when they recognized an excerpt from a Radio Luxembourg broadcast and were able to interpret it for us in meaningful English words.

REPORT 14

Experiments at Bad Krozingen

Preliminary.

This series of experiments was planned for the summer of 1971 and was to have been in collaboration with Prof. DDr. Andreas Resch and Prof. Dipl.-Ing.Alex Schneider (or Dr. G. Geir). Unfortunately, it was not possible to arrange a time convenient to everybody concerned, and eventually I had reluctantly to abandon the hope of the cooperation of my afore-mentioned friends. Plans for the experiments were given in detail in Report 11: they were to some extent preliminary and were designed to ascertain how the phenomenon was affected by more rigid experimental controls, and to provide information which would help in the design of further experiments and apparatus.

Experimental Work.

1. Apparatus.

Besides Dr. Raudive's own equipment, which he used for making a special recording on one of my tapes, two (spool-to-spool) tape recorders were available: my own Stella ST458 4-track mono ($3\frac{3}{4}/17/8$ i.p.s.) recorder, which was used at $3\frac{3}{4}$ i.p.s. on the outer tracks only, and a Brenell STB1 2-track stereo ($3\frac{3}{4}/7\frac{1}{2}/15$ i.p.s.) tape deck, which was used at $3\frac{3}{4}$ i.p.s. As the latter recorder was rather difficult to operate when it came to examining the recordings (counter insensitive and rapid wind very rapid), recordings made on it were analysed by playing them on the Stella recorder. In addition, Mr. Cassirer, Miss Driver and I each had brought a cassette recorder, which we had intended to use during recording sessions to check for uncontrolled utterance by the sitters, but as two of the three microphones refused to work properly this was abandoned. However, when Dr. Raudive made the recording on his own equipment I was able to use the microphone from my Stella recorder and my Philips cassette recorder to record the entire proceedings (on a Philips C-120 tape) without Dr. Raudive being aware that I was doing so.

All recordings were made on new EMI $5\frac{3}{4}$" L.P. tapes, a separate tape being used for each machine. Philips EL 3781 moving-coil (d.c. resistance 410 ohms) microphones were used. The 'sound-proof box', which was about 40 cm. x 45 cm. x 60 cm. high, was made of hardboard, fibre-board and felt. It was not entirely sound-proof (a muffled version of our conversation was recorded by the microphone inside it), but it was reasonably sound-insulating and served to eliminate the low-level background noises. It was isolated from vibration transmitted through the floor by standing it on two pieces of foam rubber about 2 cm. thick. A similar piece of foam rubber was placed under the microphone recording the sounds in the room. This microphone stood on a bookcase about $1\frac{1}{2}$ metres behind the nearest sitter, and some 3 metres from the sound-proof box, which was between the sitters.

It was intended to bring the radio-frequency filter into use after a number of recordings had been made without it, to see whether its presence affected the number and/or quality of the voices recorded, but as no voices which sounded as if they might have been derived from radio stations were recorded, and because only a limited portion of the experimental programme could be carried out (much of the time being spent on analysis), it was never used.

The diagrams show a short imaginary section of the tape, which is horizontal, to indicate how the recordings were made and which tracks used. The recording and playback heads are assumed to move relative to the tape in the direction of the arrows. It is also possible to see from the diagrams how interchange between machines using two and four tracks between recording and playback can lead to the sounds recorded being played backwards: in the case of mono recorders the heads move left on tracks 1 3 & U, and right on tracks 2 4 & L.

2. Details of Recordings.

session no.	name[1] on tape	date	time	duration (min.)	recorder	start tape ref[3]	analysed by K.R.	participants[2]	other details
c 1	E. 1	31.10	1911	6.5	Stella	322	no	CDER	microphone (mono)
c 2	E. 2	31.10	1951	3.8	Stella	419	yes	CDER	microphone (mono)
d 3	E. 3	31.10	2252	4.5	Stella	479	yes	C ER	microphone (mono)
e 4	E. 1	1.11	1037	5.2	Brenell	015	yes	CDER	stereo, lid off s/proof box
e 5	E. 2	1.11	1118	5.8	Brenell	052	yes	CDER	stereo, lid off s/proof box
e 6	E. 3	1.11	1152	3.0	Stella	556	yes	CDER	Goniometer (direct lead)
				0.5			yes		mic. introduction & conclusion
f 7	E. 3	1.11	1938	5.2	Brenell	086	yes	CDER	microphone on bookcase } stereo
							yes		mic. s/p box, lid on }
f 8	E. 4	1.11	2059	5.5	Stella	619	yes	CDER	microphone on bookcase (mono)
g 9	-	2.11		15.9	Brenell	112	no	CDER	as 7, conversation only
g 10	E. 6	2.11	1110	9.1	Brenell	179	yes	CDER	mic. s/p box music[8]
							no		microphone on bookcase
h 11	E. 7	2.11		2.0	Stella	725	yes	CDER	noise generator[4]
h 12	E. 8	2.11		'1.0'	Stella	769	yes	CDER	blank unrecorded tape[5]
h 13	E. 9	2.11		5.2	Stella	846	twice	CDER	microphone (mono)
14	E.10	3.11	2149	5.0	Stella	989	no	CDE	microphone (mono) in hotel[6]
15	E.10	3.11	2210	4.9	Stella	019	yes	CDE	as 14, repeat
16	E.11	3.11	2250	4.0	Stella	083	no	CDE	microphone (mono) in hotel[6]
k 17	E799	4.11	2100	5.2	Tele-	136	some	CDER	microphone }
				1.9	-funken		no		'inter-frequenz' } made by R
				4.0	M. 85		no		Goniometer
k 18		4.11	2100		Philips			CDER	made while R making 17.
l 19		5.11		3.0	Stella	298	no	CDER	pulse generator[7]
l 20	E.13	5.11	1156	1.8	Stella	346	yes	CDER	(mono) mic. in s/proof box

Notes.

1. For future reference and identification, each recording was introduced on the tape, thus: 'Here begins Einspielung Nr. ...' with details of the method used.
2. C = Mr. Manfred Cassirer, D = Miss Mary Driver, E = Mr. David Ellis, R = Dr. Konstantin Raudive.
3. This numbering, which varies from recorder to recorder, is used to identify the positions of voice effects recorded. When the tapes were analysed, the counter was reset to zero at the start of each recording. Numbers underlined represent the second side of the tape.
4. Audio-frequency noise generator (see Report 2, p.16) in screened box connected by screened cable direct to microphone input of tape recorder.
5. The start of the recording was announced by microphone, then the virgin tape was wound on, stopped, and the end of the recording announced by microphone.
6. The recorder was placed on one of the beds and covered with bedding to reduce spool and motor noise. The microphone, on a long lead, was four to five metres away from it, on foam rubber on a table near the participants.
7. See Report 11, p.53, Section 4(d).

8. Dr. Raudive refused to let us use in his house the tape of his own voice made incomprehensible (see Report 15, p.71) but he did consent to a background of music. I chose the opening ten minutes of 'Finlandia' by Sibelius, as being suitably stirring and Baltic in flavour. The idea was to see if an ample supply of sound energy helped to produce good voices. The recording from the microphone in the sound-proof box was analysed.

3. Analysis of Tapes.

The recordings indicated were analysed by Dr. Raudive, with our assistance, usually immediately after they had been made. All tapes (except 17) were played back on the Stella recorder (using its 3½-watt internal speaker, and the volume often at maximum) and when Dr. Raudive noticed a voice effect he would ask me to stop the tape and replay it a number of times. The fainter the voice, the more replays were necessary, but the usual number would be about ten to twelve. Dr. Raudive's method of turning the spool back by hand was found to be more convenient and accurate than using the rapid wind mechanism. (This technique could not have been used on the Brenell recorder because the brakes would not slip sufficiently easily.)

Before this report was written, the tapes were examined again. The output of the Brenell recorder was connected to a Sinclair 'Stereo 60' preamplifier driving two 15-watt high-fidelity loudspeakers through 'Z 30' power amplifiers. This allowed stereo playback or separate examination of each track as desired. The Stella recorder was directly connected to the radio input of the Brenell recorder, and could also play the stereo tapes with the help of an extra preamplifier. It was thus possible to play the tapes on the Stella machine (and thus use the original tape references) and listen to them through the loudspeakers. When a (previously identified) voice effect was reached, it could be copied onto a 31-inch loop on the Brenell recorder. It was found convenient to run this loop at 15 i.p.s., as the replay time of about 2 sec. was longer than the effects being examined and allowed them to be presented at an acceptable frequency. This system proved very easy to use and led to the tapes being examined quickly and effortlessly. If any effect was sufficiently interesting to merit further examination the loop was removed, filed and replaced with a new loop. Ten such loops were collected: the relevant voice is indicated below by an asterisk and the loop number. They will be subjected to further careful listening, possibly by members of the Cambridge University S.P.R. (who have already offered to help), and the results included in a future report.

The results of Dr. Raudive's analysis are given below, followed by my own interpretation of and comments on each voice effect. It should be emphasized that I do not have Dr. Raudive's long training and practice in hearing and that therefore my interpretations are to be regarded as tentative suggestions rather than categorical conclusions. In some cases the interpretation merely suggests what the noise sounded like, without necessarily implying a vocal origin. Mr. Joel Honig (New York) happened to visit me while I was listening to the tapes, and his comments on the sounds to which he listened are included.

No. 1

Although I have no detailed record of this recording's analysis, I recall that a voice appeared at 64 saying, so we all thought, 'George'. Miss Driver, who had just been asked to say a few words, said that she did not know anyone (who had died), 'except George, of course..' We had thought that the next word to be heard, 'George' was an uncontrolled utterance by C, but close examination of the loop has revealed an extra sylleble and I now hear 'patodge' (Honig: 'potage') *1.

No. 2

424 Kosti (cannot find this) 474 Tactful or Taktvoll (T & ct very clear, a could be short u, voll/ful faint but audible. Honig: not vocal) *2

No. 3

502 Manfred (very faint, probably tape spools rattling) 504 Tabu? (cannot find) 507 Tabu (tap: faint mechanical noise) 517 Tausend (mechanical) 546 Teku (tetaju: mechanical)

No. 4

25 Ça 42 Koste 42½ dauts tauten whole phrase: Koste, daudz tautas! Latvian: Kosti, many people! 64 Raudive 72 Salve Latin: greetings (unable to find any of these voices on examining tape again)

No. 5

15 Manfred (chair creak, clearest bookcase mic.) 31 Bitte (faint chair movement) 73 Raude (very faint noise)

No. 6

36 Tu duls Latvian: you are foolish/mad/crazy (liful, faint and indistinct) 50 Te Nova Latvian: Nova is here (la vili, very faint and indistinct) 56 Wems du? Latvian: where are you? (snatch of music) 57 Kosti (shorter snatch of music) 61 (on microphone conclusion) Ich habe (ich habe) *3
(Background of hiss with occasional faint suggestion of music on Goniometer part.)

No. 7

Bookcase mic. (lower track)
6½ Taka (cannot find) 18 Kosti (mechanical) 21½ Runa Latvian: please speak (cannot find) 34 Kosta 40 Tot 51 Kostja du 53 Manfred 56½ Parla 57 Zenta 63 Raudive (hard to locate any of these voices)
Mic. in sound-proof box (upper track)
21½ Raudive 29½ Ellis 34 Kosta 42 Labur 45 Margarete 49 Mote 69 Zenta (can hear muffled conversation and recognise words of it, but no voices)

No. 8

9 Colle (too faint even to identify as voice) 13½ Tekle (prolonged mechanical noise) 15 Golva (mechanical) 24 Du gut (low pitch scraping) 26½ te busimno Latvian: now we are here (squeak or bird) 30½ Koste 31½ Nothing 33 Tici, Kost Latvian: believe, Kost 34 Patitz 35 Now 36½ Rhein/Rhine 39 Noorden (noises off, e.g. person walking in corridor or upstairs, opening door, etc.) 43½ Cola (cannot find) 44 Gut 48 Kosti umnichka Russian: Kosti clever (ironical) (chka clear but probably mechanical, e.g. spools: light scraping sound) 51 On Russian: he (wheezy breathing/sort of cough) 53 Stoppa Swedish: stop (probably door upstairs) 54½ Latvia (C or R clearing throat) 56 Tula Latvian: Customs (oo very faint, sounds like pigeon) 60 Nur stunda German, Latvian: only a moment (tap tick) 64 Patika te, Manfred! Latvian: it is pleasant here, Manfred! (garage door) 70 Kosti, Margarete! (mechanical, possibly spools) 75 Mary? (faint pigeon) 83 Konstantin (faint mechanical) 85 Tabu (mechanical) 95 Du glu (very faint oo-sound: pigeon? train?) 100 Mo-re-bin or Marybin (might be Marybin; might equally be David - far too faint to hear. Possibly a distant voice)

No. 9

Conversation only: not analysed. (No noticeable voice effects)

No.10

Mic. in sound-proof box
10½ Stimmt 30½ Zentu 38½ Par-trauci! Latvian: please interrupt! 42½ Nava labs Latvian: not good 53 Konstantin 54 Konstantin 55½ Kosti 59 Tekle

Tekle griba Latvian: Tekle Tekle will 86 Koste tu noguris! Latvian: Koste, you are tired 81 Koste 87½ Koste baile! 88½ Pavet Kosti Latvian: Kosti is being seduced 144½ Kosti Margarete 148 Margaret (When the tape was replayed on the Brenell recorder, no voices could be distinguished at all, but the music could be heard faintly. The tape was originally analysed on the Stella recorder, and, because the sound-insulating properties of the box varied with frequency, some parts would come through so loud that the tape recorder itself vibrated with the 'overmodulation' of the small loudspeaker: the volume control being at maximum most of the time. It is thought that this gave rise to the voice effects discovered, and they do indeed correlate with the loud parts of the music.)

No.11

No voice effects discovered.

No.12

Dr. Raudive was unable to find any voices on this tape.

No.13

0 (a) Good voice: Trotsig German: obstinate (b) So sicher (trutzgehoren, transient speech of someone present, e.g. C? Occurs as recorder switched on) *4 4 (a) Tava mata (cannot find) 6½ Prast (tserek/tsyke) *5 20 (a&b) Coboldi Latvian: pixies (cannot find) 26 (a) Hullo Konstantin 28 (b) Margarete (cannot find either) 30½ (a) Waü (regret my writing unclear here) ?: friend (b) Vyest Russian: news (light cough or catching of breath) 31 (a) Runa Latviski speak Latvian (b) Koste tea 32 (a) Hallo (b) Petrautzka (cannot find either) 36½ (a&b) Koste tur Latvian: there is K (4-syllable rattle, e.g. door upstairs, etc.) 42 Koste duma tu? Russian: K do you think (b) ? C: Jawhl (cough from C) 46½ (a) Koste, ko tu duma? (b) Gute gute nacht (spools rattling) *6 53 (b) sitse da (light rattle) 58½ (a) Doctor (b) Ladok or Ja doch 60 (a) Plapa (b) na put Russian: on the way (cannot find these) 70½ (a) Mary du (b) Mary zinn Latvian: Mary knows it (got Mary very indistinct sounds like mechanical: scraping) 79 (b) Kosti (3-syllable rattle) 90 (a) ? (b) Koste tic! Latvian: Koste believes (mechanical) Analysis (a) ends here. 93 Koti (possibly R opening his mouth to speak) 102 Wissenschaft (rattle/scrape) 108 Margarete (cannot find) 110 Koste tutti (tock tick) 112 Kakis tja! Swedish: Mr. Kakis is here! (cannot find) 116 Kosti van! (mechanical) 119 Tod zwingen German: conquer death 122 Elsa (R moving in his chair)

No.15

3½ Koste kur? L: where is K? (cannot find) 8 David is fliessig Silesian dialect: industrious 10½ Mother 12½ Slikti L: it is bad 14 Kostulit tu guli (last four: possibly distant voices) 25 Kosti Freiburga K is in F (cannot find) 27½ David (cannot find) 30 Healthy C: hell (very faint, very distant wheeze) 32 furchtbar (hmm! Probably C) 36 Kosti (sniff or someone breathing) 36½ Latviesi Latvians (noise from another room) 40 Minus (minu, faint, indistinct probably distant voice) *7 46 slooshnoy Russian: it is audible (not vocal but not identifiable. Phonetically reasonable, however) .....

No.17

8 Mote (cannot find) 12½ Zdravstvoy Koste Russian: greetings Koste (chair creaking) 13 Slims Koste L: K is ill (cannot find)

No.19

Screening was insufficient and radio background still audible, also treble note of varying pitch. Therefore not worth analysing.

No.20

9½ Lenin (Lenin or Ledin) *8 10½ Hans (hunin) *9 14 (R asks question, E replies, sounds very like first two voices) *10 @ 3¾ i.p.s. 22 Margarete (cannot find)

4. Comments and Conclusions.

At first I was uncertain whether the various noises on the tape to which I have assigned a mechanical origin were in fact the voices to which Dr. Raudive was listening. Perhaps a faint whisper which I was unable to catch was accompanying them. But the close phonetic similarity between the loudest noises and the voices which Dr. Raudive heard strongly suggests that they were one and the same. Some of the noises may have been derived from the revolving spools on the tape recorder or from somewhere else in Dr. Raudive's study: often we could hear faint ticking and clicking noises but we were not able to locate their source. The recording made in the hotel, when the tape recorder was well muffled, is fairly free of these sounds. Natural (or non-vocal) noises do not necessarily account for all the voices, but it is important not to be deceived by them. Uncontrolled utterance is also a problem, but can be reduced with practice.

No voice effects were produced by any of the noise sources, so it would seem that audio-frequency noise obscures rather than enhances the phenomenon. The lack of any voice effects like those recorded by radio methods suggests that few microphone voices are derived from radio sources. This is confirmed by the results obtained in the screened room (see Report 6, p.32). Nevertheless, it would be sensible to adopt such precautions as including radio-frequency filters in the microphone lines and screening as much of the apparatus as possible.

A number of interesting voices were selected for further study, but the week's experiments have convinced me that these are only a small fraction of the voices which Dr. Raudive collects. Many of the effects are far too faint to hear or interpret with any certainty: if only the clearer ones were studied there would be less danger of confusion with natural sounds.

25th May 1972

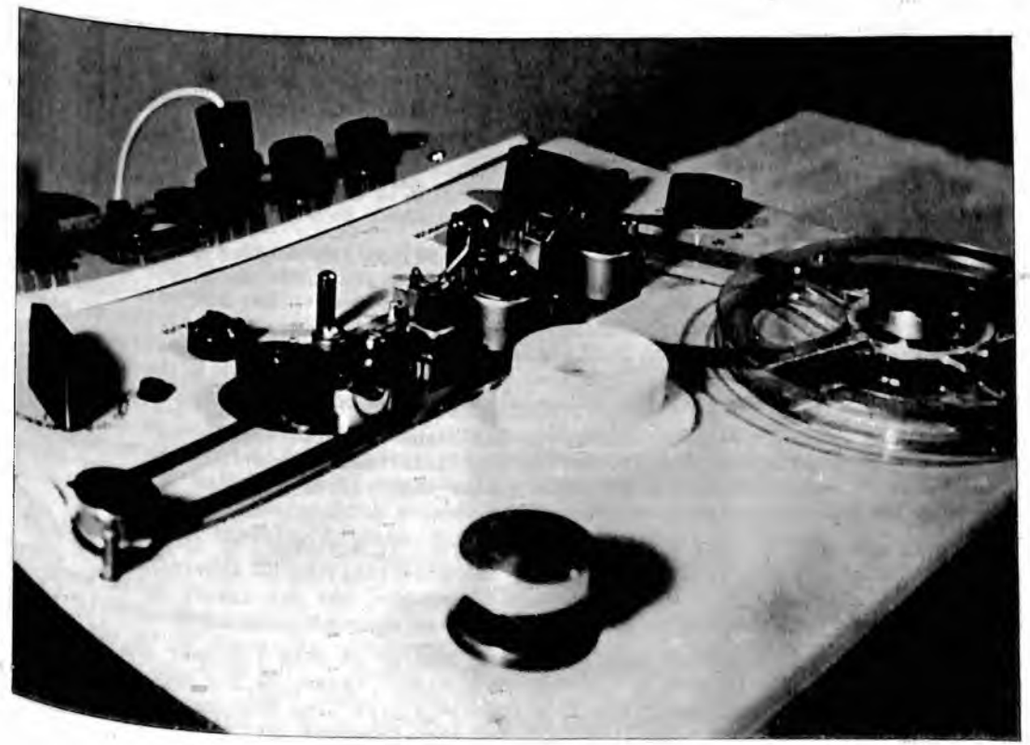
Experiments with Dr. Raudive never worked out exactly as planned, and the experiments described in Report 14 were no exception. The main reason in this case was Dr. Raudive's insistence that each recording be analysed before the next one was made. This was a major setback in terms of an experimental design which accepted that voices of reasonable audibility were likely to be recorded and that it would not be difficult later to check each of a fair number of recordings to ascertain whether or not such voices had been recorded under the varying experimental conditions. However, by working in compliance with Dr. Raudive's wishes we were able not only to make a number of microphone recordings on our own tapes and equipment under different conditions, but also to obtain a matching record of Dr. Raudive's interpretations of these recordings.

Experiments are designed to test or eliminate certain hypotheses that derive from what the experimenter believes might be the case. In drawing up the plans given in Report 11, I was first of all concerned to eliminate the possibility that microphone voices might be derived from radio broadcasts picked up by the tape recorder circuits or from spurious effects on the tape. Then there was the matter of how the voices originated. If they were sounds, could one find out whereabouts they came from? If they impinged directly on the recording equipment, could one discover which part was affected? Third, how did Dr. Raudive's presence, absence or conscious intentions affect the results, and fourth, could the effects be enhanced by suitable (possibly energy-supplying) noise sources?

The experiments that were conducted supplied partial answers to these questions:

1. Even without the r/f suppression filter there were no effects (on microphone recordings) which gave any suggestion of having been derived from radio sources.
2. It seemed reasonable to suppose that the voice effects originated as sounds.
3. Dr. Raudive found voices on the recording made when he was not present.
4. The noise sources did not produce better voices.

But these were not the most important results of the week's work. Much more significant was the light that the sessions shed on Dr. Raudive's strong tendency to hear voices in mundane sounds, such as footsteps, doors opening and shutting, chairs creaking, and in mechanical noises from the equipment. It was also noted how difficult it is to avoid 'uncontrolled utterance'. One or two effects seemed very likely to have originated from someone present, and although we recognized the voice of the speaker, he could not remember what he said - or even having spoken. It would not be unfair to say that listening very carefully to all the original tapes in order to write Report 14 left me almost as doubtful about the microphone voices as I already was about those recorded by radio methods. If Dr. Raudive had seemed disappointed with the results I might have felt differently, but, on the contrary, he seemed very pleased with them.... At this stage in the research it seemed that the only fruitful line of study lay in restricting one's attention to the loudest and clearest of the voices.



The 'loop method' used for examining the tapes

ANOTHER SIX MONTHS

REPORT 15

1st - 28th October 1971
15th November 1971 to 17th March 1972
20th and 24th - 31st March 1972

Preliminary.

This report covers the whole of the six months from October 1971 to March 1972 inclusive, except for short periods of visits which are described in detail in Reports 13, 16 and 17. Some time during this period was spent in preparing, printing and distributing Reports 7 - 12: I have found that writing reports in batches rather than singly is easier, cheaper and saves time, but I apologise to readers who would have preferred a smaller amount more often and more regularly. I would again like to express my thanks for the many generous donations which I have received towards the cost of producing and distributing these reports.

One problem which has been with me over the past year has been how to keep up with my very necessary correspondence, or, alternatively, how to do any other work! I have tried to restrict letter writing to Mondays, but can report only partial success. May I say to my correspondents how pleased I am to hear from them, whether they send concrete information or just personal comments, but I do hope that they will understand if my replies are sparse, brief and often delayed, and my comments on 'what I think about the phenomenon' limited to a couple of succinct sentences - and my reports!

Further Progress.

1. General.

I visited Mr. Richard Gill (see Report 12, p.54) on 1st October and listened to the voice effects which he had recorded by microphone and diode methods. He thought that some of these were derived from police cars or aircraft, and was more interested in knowing whether they were like those recorded by Dr. Raudive (I was able to play him some examples of the latter) than whether either were genuinely paranormal. He promised to keep me informed about further results and offered to buy the Goniometer and/or the Psychofon and make recordings with them if they were available.

Mr. Ralph Lovelock visited me on 20th March and listened to the tape on which I had recorded a translation of Prof. Bender's article (see Report 18). He commented that from Prof. Bender's results it would appear that voices recorded by the microphone method originated as ***sounds***.

During a trance sitting with the medium, Mrs. Ivy Northage, on 7th February, I asked her control, Chan, what he thought of the possibilities of apparatus communication. He said that it was certainly possible, but not likely to be very versatile: one might get the same message repeated over and over again.

Dr. Hans van der Haas (see Report 7, p.34) told me on 25th February that he had followed Mr. Albert Best's advice and visited Sweden. Later, he had met a Dutch engineer who was designing apparatus to eliminate all natural sources of voices and thus record only paranormal ones. Dr. van der Haas reported that he too had noticed whispered 'extra words' (in English and Dutch), on tapes of sittings with the mediums Mr. Douglas Johnson and Mrs. Ena Twigg. His own interest in psychical research began after the loss of his wife in mid-1970; she had proved to be a good communicator.

Her persistent mention of 'water' for communication purposes led Dr. van der Haas to conduct two experiments: (a) recording by microphone the sounds made by a kettle boiling, and (b) recording on stereo with one microphone placed in an inverted pail submerged in a bath full of water. The second experiment had produced an extra voice from the microphone in the bath, repeating his sentence but with the stress on a different syllable of one of the words.

On 3rd March I discussed with Mr. Francis Morton various methods which might allow apparatus communication with discarnate entities, including use of infra-red light, and magnetic induction. If radio and audio-frequency sound (as used by Dr. Raudive) were avoided, it might be easier to eliminate spurious effects.

I visited Mr. Denny Densham at Welwyn on 9th March, and he very kindly gave me a copy of a tape which he had compiled about his investigations of a haunted squash court at Bircham Newton in Norfolk. A tape recorder left running in the court on a still night had picked up a number of strange noises: taps, clicks and bangs and even what might have been a woman's voice, although there were no movable objects inside the building. The squash court, which was on a disused R.A.F. aerodrome, appeared to be the centre of poltergeist disturbances.

2. Correspondence.

Mr. Richard Gill wrote that the interpretation of the voices seemed to be very subjective indeed: when he played his clearest voices to a group of people, none of them heard what he heard. He found the frequent reception of radio stations troublesome, but had received enough voices which could not have been radio programmes to be convinced that freak radio reception was not the whole solution.

I asked Prof. Bender if I might possibly accompany him on his next visit to Mr. Jürgenson, and he said that he would contact me when they arranged the experiments.

Mr. Joel Honig (New York) wrote about his recordings with microphone and diode and sent me a tape with samples on it. He pointed out that Latvian *was* used for radio broadcasts (see Report 1, p.10): from Radio Riga on 575, 1142, 1349, 1421 and 1484 KHz., although he doubted whether this was the source of Dr. Raudive's voices.

Mr. J. de Rivaz mentioned the existence of "Panadaptors", which could be used in conjunction with an oscilloscope and a super-heterodyne radio receiver to provide a display of all the stations broadcasting in any particular frequency region.

Mr. Brian Baily wrote on 17th March, "Firstly...I strongly feel...that white noise can produce strange effects. If one listens to this noise for a while, the brain seems to grab at odd occurrences in its randomness, and interpret the whole as a short phrase, e.g. one might hear, 'SSSSHHHHH....what's for tea....SSSSHHHH...' I have often thought that if one has a random source, and it is truly random, i.e. there is no evidence to point that any pattern will ever be repeated at any known regular interval in it, then if one should disturb this randomness, in any way at all, then one MUST arrive at something somewhat LESS than random. After all, take white light. If you add anything to this, you immediately colour it! Even if you add white light, you form regular 'standing waves' or interference patterns in it, and it becomes 'unwhite'.

"Following this along 'sound' lines, I decided to experiment. I believe you heard my effort of combining three sources of white noise from separate generators. After some while, I am sure I caught snatches of apparent conversation in the mud, but I did not record them. Had I done so, I am sure they would have been as distinct as the Raudive results to date, though with the added background of mush. My system was to modulate source No. 1 with No. 2 in a ring modulator, so that only the products (i.e. sum and difference frequencies) of the two came out. This I added to the input of a second ring modulator, with source No. 3. The final result I put into

the amplifier. I don't think this effect is related in any way to the alleged Raudive effect, if the sound is anything to judge by, but if it were possible to demodulate the final result and remove the white noise 'carrier' from the resulting mess of my system, there may well be some sense in the result.

"...I am sure this messing about with goniometers and microphones is asking for trouble (or results!) and should be banned. It's like setting a machine to chuck live fish in the river upstream of where one is fishing! If people seriously want to investigate the phenomenon they should do it properly, and make the whole thing proof against commercial and other radiations. I have tried (without result I add) recording with no microphone at all and a screened microphone input socket. Now, if I got a result then, I would repeat with the whole contraption in a screened box. I know all too well about the way radio signals can creep into amplifiers and tape recorders, particularly if there are no tuned circuits to sort them out: you get a bit of all sorts. Again, a tape recorder on record is extremely sensitive: the microphone has to pick up sounds from all over the room, and the gain is tremendous."

3. Information Received.

Sixteen pages of the Autumn 1971 issue of *Light* were devoted to the voice phenomenon, and included further technical discussion. Dr. Hans von Noorden reviewed *Breakthrough* in *Zeitschrift für Parapsychologie ... 13* (3) 192-6, and offered some metaphysical speculation on the origin of the voices. Ing. F. Seidl's book, *Phänomen Transzendentalstimmen* (80 pp. DM 7.20), published by Verlag Frech (D-7000 STUTTGART 1 (Botnang), Vaihinger Landstraße 4, Germany), contains details of his apparatus, work, results and theories.

Mrs. Hanna Buschbeck sent her report on the results of her questionnaire. 41 people had replied, giving their ages and other personal details such as whether they were 'sensitives' or not, the methods of recording, the audibility and the language range of the voices they had obtained, and their thoughts on the origin of these voices.

A short article, "Two Visits to Dr. Raudive", by Manfred Cassirer, was published in the March/April 1972 *Parapsychology Review*.

4. Experimental Work.

A recording of Dr. Raudive's voice (from one of his lectures) was copied onto a cassette tape and a copy of this 20 times superposed was made. The latter was copied onto a C-120 cassette as follows: 20 mins. normal speed, 20 mins. double speed, 20 mins. both normal and double speed superposed. A further copy of the third recording at double speed was made on a second cassette tape for good measure. (See Report 11).

A Brenell STB 1 (2-track) stereo tape recorder was borrowed and tested. Suitable leads were made up for the microphones and for playing the tapes back through a second recorder.

Mr. N. Buckmaster kindly lent me the sound-proof box which he had built for some experiments with the direct voice medium, Mr. Leslie Flint. Mr. A.P. Hale lent me a two-channel radio-frequency filter.

The Cambridge University S.P.R. offered their assistance with any experiments which I could devise for them.

Although it was not possible to buy, hire or borrow a 4-track in-line tape recorder for the experiments at Bad Krozingen in November, I am still hopeful of a grant to purchase one, and Mr. Cutten has promised to help in this. Such a machine would become the property of the S.P.R. and would thus be available to other research workers. Besides its application to study of the voice phenomenon it would also be useful in investigating direct voice mediumship and poltergeist phenomena.

5. Publicity.

I wrote to Mr. Colin Smythe on 6th October asking whether he had any information relevant to the voice phenomenon which might be useful to me in my research. I received no reply, but on 20th December Mr. Peter Bander telephoned me and asked me to visit him for the evening. He said that he was writing a paper on what had been done during the last year or so, and questioned me (with his tape recorder running) for some time about my work and my feelings about the voice phenomenon. Mr. Bander's paper, now a book, is being published this month as, *Carry on Talking: How Dead are the Voices?* but I have not seen the proofs, or the chapter on my research.

A three-page article, "Further Breakthrough", in the Australian journal, *Electronics Today*, Sept. 1971, pp. 60-2, which seems to have been derived almost exclusively from material supplied by Colin Smythe Ltd., provoked a comment by 'Vector' in *Wireless World*, Feb. 1972, which ended with a plea for information on 'the present state of the art', so I duly wrote and sent some, correcting some errors.

Dott. G. Crosa invited me to take part in a series of three meetings to tell people about the voice phenomenon, which he had arranged to be held in the Italian part of Switzerland from 21st-23rd March, and in which Dr. Raudive, Pfr. Schmid and Prof. Schneider were also to take part. Unfortunately, he was unable to offer me expenses, and as I was rather busy at that time I sent my apologies and declined his kind invitation.

19th May 1972

One reason for writing a diary is to have the means of looking back and finding out where all one's time has gone. Certainly such an exercise seemed necessary for this period, when it might be noticed that a visit to Dr. Raudive was made in November, but the tapes not properly studied or analysed until the following May! The record includes details of the meetings with other workers mentioned in the report, plus a number of other meetings, discussions and telephone calls relevant to psychical research in general rather than to the voices. Some time was needed to prepare talks on the voice phenomenon, and two or three days spent listening to, editing, sorting out and copying various tapes, but the bulk of the time seemed to have been divided between letter-writing and writing, typing and printing reports.

Such is the dilemma of the isolated researcher. Either one works in complete isolation and misses the encouragement and ideas of other workers, or one tries to keep in touch with everybody and finishes up doing little else! How any worker tackles this dilemma must depend very much on the nature of his project. It might have been possible to study the voice phenomenon in isolation, but it seemed more desirable to co-operate with the many others interested. It was at any rate necessary to write reports, as these provided a record of the work done. And perhaps the longer time-scale of the research made it easier for one's thoughts about the phenomenon to be modified by one's results and experience. Of course it is easy to look back on the work and say that only a few experiments and observations were really any help; that one need not have visited, written to or talked to half as many people as one actually did. But it is not so easy to look ahead and decide what few actions are going to be essential, for this implies knowledge of the conclusions before the work is started... And it might not be unfair to say that the extra visits and experiments give a broader, fuller picture and help to confirm the main findings of the research; that the letters and reports may have been helpful to those who received them even if their writing and printing respectively did not directly advance my work.

ELECTRONICS AND 'DIRECT VOICE'

REPORT 16 18th - 19th March 1972

Preliminary.

This report covers my visit to Mr. Simon Stark at Folkestone, Kent, and describes his attempts to obtain direct voice communications by the help of mediumship and electronic apparatus.

1. Introduction.

Mr. Stark is a Spiritualist and a member of the National Federation of Spiritual Healers. His career included experience as an electronics technician with Philips Co. in their laboratories at Eindhoven (qualified 1928) and as a merchant navy wireless operator (G.P.O. Cert. 1st Class 1926), so he is familiar with both the technical and acoustic aspects of radio transmission and reception. He listened to the recording made by the 'interfrequenz' radio method (see Report 8, pp.39&43), and was amazed that anyone should think that there was anything paranormal about it. His acute hearing enabled him to notice and discern the words, 'his mother', on my copy of Mrs. ----'s voices after hearing them only twice.

2. Principles of Present Electronic System.

The electronic apparatus in use when I visited Mr. Stark was developed with the following principles in mind: -

(a) To provide a non-interfering background noise. It has been suggested (see Report 1, p.12 and Report 11, p.53) that the background noise may be a necessary element in the production of Dr. Raudive 's voices. If such noise were inaudible, i.e. in the ultrasonic range, it would not make it so difficult to hear the voices. Mr. Stark pointed out that by tuning between radio stations, Dr. Raudive was likely to pick up an ultrasonic component (probably between 20 and 60 KHz.) caused by beating of the two carrier frequencies involved.

(b) To provide an ultrasonic fundamental beat frequency (with its harmonics) to convert possible ultrasonic voices to corresponding audible voices according to heterodyne principles.

(c) To provide a source of energy concentrated through the narrow throat of a horn where the discarnate communicators might be able to modulate it by means of ectoplasm.

3. Apparatus Used.

A 41 KHz. (piezo-electric crystal) ultrasonic transducer, fed through a low-loss cable from a battery-operated generator, with a moving-coil microphone a few inches below it, was mounted vertically on a wooden stand placed in the centre of the circle, the microphone being about two feet above the floor. Between the transducer and the microphone the sound can be concentrated by a device shaped like two cones joined at their apexes, the diameter being 2.5 mm. at the narrowest part and about 25 mm. near the microphone. This microphone is connected to a Grundig mono tape recorder running at $3\frac{3}{4}$ i.p.s. The signal from the transducer, although inaudible, registers on the tape recorder recording level indicator.

A second, similar, arrangement, but with a 17 KHz. transducer, is placed at the edge of the circle, and the microphone connected to one channel of a Hitachi TRQ/232S ($\frac{1}{4}$-track) stereo recorder. The microphone connected to the other channel is mounted

similarly, but without a transducer, and placed at the opposite side of the circle. Both tape recorders are mains-operated and installed outside the séance room: the microphone cables are of the low-loss coaxial type, as used for TV aerials.

In the séance room a cassette recorder (powered by a mains transformer) is used to play a 45-min. tape of soft music alternated with intervals of silence. A readily accessible external control allows the volume to be reduced if necessary, and the loudspeaker is placed well away from the sitters and the microphones.

The recordings are made on hour-long tapes used repeatedly for the sake of economy, copies being taken of any interesting sounds, voices, etc.

4. Procedure.

The sittings are held in total darkness (after some time I was able just to detect my hand occluding the window area) in a fairly large well-carpeted room in the front basement of a small private hotel, and last approximately 45 mins. (determined by the duration of the music tape). They have been held three times a week, normally with three sitters on Sundays and Wednesdays and seven on Fridays, for about a year. Absence of individual sitters for holidays, etc., is, however, accepted.

Mr. Stark and his friends believe in close cooperation with 'the other side' and have had sittings with well-known mediums to discuss their apparatus and procedure. The following advice was offered by the trance controls of Mrs. Florence Derbyshire: - it was important always to feel relaxed and at ease, so comfortable chairs should be used and playing soothing orchestral music was better than trying to sing. The microphone should preferably be about two feet from the floor and in the centre of the circle, but its position was not critical. Flowers were helpful, as they were a source of spiritual energy. The sitters should come in surrender to Spirit, but they should not expect to lose any of their normal faculties or to speak in trance, as this would represent a diversification of the efforts of the communicators, who were concentrating on producing the direct voice. However, the medium might feel rather uncomfortable at times, and the sitters experience tingling in their hands and feet. The conditions of their circle were generally very satisfactory, and the use of electronic apparatus was much appreciated.

With the object of attracting communicating spirits with similarly altruistic purposes, each sitting is opened with a prayer for help and protection against undesirable entities, and for the development of the mediumship to the benefit of mankind and the comforting of the bereaved. In order not to delude each other, the sitters comment on any noises which they might inadvertently make by coughing, moving in their chairs and so on, and they also relate any visual, tactile or olfactory impressions experienced during the sitting. Informal and light-hearted conversation maintains a cheerful atmosphere, as does the music, which is light and of a quick tempo. One or two empty chairs are provided, and relatives of the sitters who might communicate addressed as if they were present. I took part in a sitting, arranged for my convenience on the Saturday instead of the Sunday evening, and recorded the proceedings with the microphone of my battery-operated cassette recorder placed well away from the sitters (and the music loudspeaker).

5. Results.

Although as yet these have not been impressive, they have been sufficient to encourage the group to continue. They amount to a few words, an occasional whispered voice, tinklings, tappings and various sounds which have been attributed to deceased pets. One sitter's late wife, to whom some words spoken in a characteristic way had been attributed, confirmed this through a medium the next day.

In practically every case the sounds were heard by the sitters, so there is no reason to suppose that any were not audible at the time: some may have been missed

because of distraction. While I was present I distinctly heard several times a sound as of a small bell, but I was unable to be sure that it was coming from inside the room.

6. Future Plans.

(a) The central microphone would be replaced by a system comprising a 41 KHz. ultrasonic source and detector, the output from the detector being applied to a radio-type circuit designed to separate from the original carrier any sounds superimposed by the spirit entities. These would be recorded and could also be amplified and relayed through a loudspeaker in the séance room. The advantage of this method is that the apparatus can be fully screened against radio interference.

(b) One of the microphones from the stereo recorder to be used in conjunction with a 17 KHz. fixed oscillator as before; the other to be placed at the edge of the circle - near an empty chair on which a communicator might sit - and used with an audio oscillator whose frequency could be varied up to 41 KHz.

7. Conclusions.

Mr. Simon Stark's ideas, experiments and sittings, represent in my view a serious attempt to tackle the problem of whether technological methods can facilitate communication with discarnate spirits. Naturally one must assume that such beings exist, and that they wish to - and are at times able to - communicate with us, and it is also necessary to persist patiently with sittings even though at first they produce no results. Under these circumstances it is understandable that the sitters may 'clutch at straws', or be encouraged by evidence which is unimpressive to the outside observer. Time alone will show whether their expenditure of time and materials was justified; that is, if time brings the development of reliable and undeniable voice phenomena. It seems a reasonable idea that if physical phenomena, of which direct voice mediumship may be an example, occur, then by reducing the amount of energy necessary for their manifestation it might be possible to induce them to occur more frequently or in the presence of less powerful mediums.

Much of the above could also apply to Dr. Raudive's - and others' - persistent and patient work on the voice phenomenon. The vital necessity in each case is not to be deceived by spurious natural effects. As far as I know, Mr. Stark's idea of using ultrasonic sound is a novel one, and has the advantage over the use of other forms of energy in that chance pick-up of radio transmissions or recording of stray sounds can be minimised. Prof. Bender has pointed out that the voice phenomenon does not require a spiritistic interpretation, and it may transpire that if Mr. Stark's circle do obtain some audible voices these too could be interpreted in terms of psychokinetic action. On the other hand, they may support the Survival hypothesis. Whatever the outcome, I await their further results with interest.

19th May 1972

Five years after my visit, Mr. Stark writes that his efforts with an audio-oscillator to obtain audible sounds by 'beat-frequencies' have been in vain. (However, he seems to have had some limited success with simple microphone recordings, and good results with a group in Holland sitting for 'direct voice'.)

REPORT 17 21st - 23rd March 1972

Preliminary.

This report covers some visits which I made at the end of March.

Timetable.

date	travel	person visited	at	from
Tue 21.3	Epping to Hoylake	Mr. E. J. Cotton	Meols, Hoylake	1830 - 2130
Wed 22.3	Hoylake to Shipley	Mrs. C.N.	Shipley	1435 - 2025
Thu 23.3	Shipley to Denton	Mr. Philip Rodgers	Denton	1100 - 1845
	Denton to Keyworth	Dr. Alan Gauld	Keyworth	2105 - 2405
Fri 24.3	Keyworth to Epping			

Details of Visits.

1. Mr. E. J. Cotton.

Mr. Cotton, author of the book, *They Need No Candle*, recently published by the C.F.P.S.S., reported to the C F P S S H.Q. details of an incident with a tape recorder which he had experienced while being interviewed about this book for Merseyside Radio. As I was already planning a trip to the North of England I thought it might be worthwhile to go a day earlier than planned, and call on Mr. Cotton to obtain further details of his experience. The facts appear to be as follows.

On February 17th, 1972, Mrs. Peggy Poole, a freelance interviewer, called on Mr. Cotton to interview him for the Merseyside Radio programme, "Talking Point", on 24th February. She brought an expensive German tape recorder, which belonged to the broadcasting company. The interview lasted about 30 mins., comprising some 20 mins. on one side of the tape and 10 mins. on the other side. No further details are available of the tape recorder, but one would surmise that it was a 2-track machine, probably running at 7½ i.p.s. Track 1 was filled, the tape turned over, and the interview finished using, according to Mrs. Cotton, at least half of track 2.

The latter part of the interview was played back first and, to their surprise, Mr. Cotton's voice on the tape faded out to a low background level and gave way to a strong male voice speaking a foreign language. Listening carefully, Mr. Cotton came to the conclusion that this was German, but as he does not understand German, and as the voice spoke very quickly, he was unable to translate. The voice lasted for about a minute. When the tape was played back a second time, only Mr. Cotton's voice could be heard, loud and clear as recorded. The tape was then wound back to the beginning of the interview and replayed. About a quarter of the way through, a man and a woman could be heard, both speaking German, at normal pitch but too fast to understand. At the second playing, these strange voices had gone and only the interview, as recorded, could be heard. The following afternoon, Mrs. Poole played the tape (on the same recorder) to a colleague who was to help edit it, and the voices appeared again. The colleague identified the language as German, but it was too fast for her to translate or even recognize any words.

As the effect was transient and as I was unable to examine either the tape or the recorder, my conclusions must be to some extent tentative, but it does seem fairly obvious to me that what Mr. Cotton and Mrs. Poole were hearing was the other track coming out backwards. Probably either the tape had slipped temporarily out of alignment or the amplifier was inadvertently connected for a short while to the wrong or to both channels. The normal-pitched male voice which was heard for about a minute would be Mr. Cotton's voice, and the two voices, which occurred some way into the first part (the second track was not full), would be Mrs. Poole and Mr. Cotton

concluding the interview. The fact that no words could be identified because they were spoken too quickly is very characteristic, and I have already come across a case (see Report 9, p.46) in which backwards English was identified as German.

I said that I hoped that a second recorder might be at hand to record the effect should it occur again. Mr. Cotton kindly showed me round his healing Sanctuary, and I was most impressed by the high standard of the paintings, including many fine portraits, which he had executed whilst in trance.

2. Mrs. C.N.

Mr. John La Page, F.S.A., F.R.Hist.S., wrote to Mr. Bearman about Mrs. N., and information derived from subsequent correspondence with Mr. La Page and Mrs. N. suggested that it would be worth visiting her.

Mrs. N. is shy and retiring and dislikes publicity, which is why I have not given her name. She has been a widow since about 1952, when her father, husband and eight-year-old son all died within the space of a few years. She was devastated by this tragic loss but has since been greatly comforted by communications which she has received from her father, mother, son and others. Mrs. N. told me that she was clairvoyant and clairaudient and had done some development with a good medium. She described a remarkable case of healing which had occurred in her presence. She has a trained ear and holds the L.R.A.M. diploma for teaching of voice production and singing.

Communications, mostly by direct voice, have occurred for 20 years, sometimes infrequently, often irregularly, but never ceasing. Mrs. N. listens to the B.B.C. programme, "Songs of Praise", and when the communicators come and sing she records the programme, and their voices as well, on a Ferguson 2300 2-track, 3¾ i.p.s. tape recorder. I listened to a number of her recordings, which were of excellent quality, and I could hear the voices quite clearly: they are very different from each other and from Mrs. N.'s voice, and definitely not part of the programme. They not only sang with the hymns - and accompanied them with sounds of tinkling bells and some sort of pipes or whistle - but also made comments such as, 'Hello, C.!' 'We are all here!' and, 'Are you all right?' There was one recording, made on Mrs. N.'s birthday without a radio (or TV) background, on which can be heard the message, 'Happy Birthday, C.!' followed by a faltering but unmistakable rendering of the tune, 'Happy Birthday to You', on the pipes.

Mrs. N. said that a soft whistle often preceded her father's voice and warned her of his presence, and she then had to keep still while the voices were coming, otherwise they stopped. They seemed to come from a pantry cupboard near the door of the kitchen, which is a small, narrow room opening onto a largish dining room. The radio and tape recorder being in the dining room, Mrs. N. would stand in the kitchen doorway by the cupboard.

Mrs. N. was unwilling for me to copy any of her tapes: the communications are very much a private affair and the spirits - who would have to give their permission - were very reticent with strangers. For this reason the voices hardly ever come when anyone else is present. The one exception was a cousin of Mrs. N.'s, who used to sit with her regularly. They would sit and listen to the hymn programme, with the tape recorder running. Mrs. N.'s loved ones would then casually announce their presence and join in the hymns, as described above.

Mrs. N. struck me as a very genuine and modest person, and from what she told me she would appear to have quite exceptional mediumistic gifts. Clearly, however, before any judgement can be made about the phenomena described, it is highly desirable to be present when Mrs. N.'s voices come through, and to listen to them and possibly carry out a few experiments. This is very difficult, as it is not easy to predict when they will come, and the presence of an outsider might deter the communicators

from speaking. I suggested to Mrs. N. that she might come down to London for a week or so and stay with one or other of my friends so that we could have some meetings and sittings. She seemed to like the idea and I hope that something can be arranged. Meanwhile, I remain puzzled.....and fascinated.

3. Mr. Philip Rodgers.

Although I listened again to some of Mr. Rodgers' tapes, this was mainly a social call. Mr. Rodgers was recently married and seemed very happy. I met his wife and two of her sons. Owing to some misunderstanding about when I was arriving (the visit was arranged by telephone and I neglected to confirm the details in writing), Mr. Rodgers was out when I arrived, but I was able to use the time to good advantage writing up my notes. For this and other reasons my departure was later than intended.

4. Dr. Alan Gauld.

We discussed whispered voices at séances and Dr. Gauld played me the tapes on which he had noticed such effects. Owing to the confusion at the time: end of sitting, several people talking in quick succession, it was not possible to be sure that no one had uttered them, but in one case the tape showed that the 'extra voice' was audible at the time. Someone had heard it and asked if anyone had spoken. I played Dr. Gauld the noise and voice which I had recorded at the haunted house at Enfield (see Report 12, p.55) and he seemed reasonably impressed. He did not think the loud crash was necessarily made by the dog outside the kitchen door, and said that it was not unlike poltergeist noises which he had experienced.

After thanking Dr. Gauld for staying up late to talk to me, I drove back to Epping.

19th May 1972

By far the most interesting voices studied in these visits were those recorded by Mrs. N. of Shipley. For the first time in my work I had come across voices that could by no stretch of the imagination be attributed to spurious effects such as fragments of radio signals or distorted natural sounds. They were, in fact, an example of ostensible direct voice mediumship - and as such came outside the scope of my studies of the voice phenomenon. However, I was fortunate enough to obtain a grant from the Parapsychology Foundation to continue the study and make some further visits to Mrs. N., during which I heard the voices and other sounds for myself. But that is another story. Mrs. N., who was in her eighties, died in September 1973.

OTHER WORKERS: EXPERIMENTS & INFORMATION

REPORT 18

Supplement to Report 7 : Some Details of Experiments by Other Workers

Preliminary.

This report contains further details of two items mentioned briefly in Report 7: Prof. Dr. Hans Bender's paper on his work with Mr. Jürgenson, and the experiments conducted at Gerrards Cross on 24th March, 1971, by PYE RECORDS LTD.

A. Prof. Bender's Paper.

1. Reference Details.

This paper, " Zur Analyse außergewöhnlicher Stimmphänomene auf Tonband : Erkundungsexperimente über die 'Einspielungen' von Friedrich Jürgenson " (The analysis of extraordinary voice phenomena on tape-recordings : pilot studies of the 'playback phenomena' of Friedrich Jürgenson) was first published in *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie* Jahrgang 12, Nr. 4, pp. 226 - 38, early in 1971 . A translation into English, " The Phenomena of Friedrich Jürgenson ", appeared in the *Journal of Paraphysics*, Vol.6, No.2, pp. 65 - 75, and is available as a separate supplement from : The Paraphysical Laboratory, Downton, SALISBURY, Wiltshire.

2. Outline of Paper.

Prof. Bender gives a short history of the voice phenomenon, including the early experiences and experiments which convinced Mr. Jürgenson and other witnesses of its reality. He describes how more and more people, including Dr. Raudive, reported success in obtaining voice recordings using similar techniques.

In the summer of 1964 the Freiburg Institut was able to conduct the first exploratory experiments with Jürgenson in the (private) German Institute for Field Physics at Northeim. These constituted a preliminary clarification of the problem. There was no doubt that there had been recorded on virgin tape sounds whose origin required to be investigated. Prof. Bender discusses his 'counter-hypotheses' - ways in which spurious effects can be recorded - and describes how they can be eliminated.

A further exploratory investigation took place at the end of October, 1965, in Nysund near Mölnbo in Sweden, in Jürgenson's country house. The experimenters were B. Heim, Director of the Northeim Institute, and his sound engineer, W. Schott. " Even using all one's critical experience to the utmost," wrote Heim in his summing-up, " there still remains an inexplicable residue, which, to judge by our observations, seems to be connected with Jürgenson's personality."

The Freiburg Institut discontinued further investigation of the rather complex voice phenomenon for the time being as there was little hope of financing it. In the meantime, the 'paranormal voices on tape' had become a curiosity discussed all over the world. At the beginning of May, 1970, an unexpected opportunity arose to conduct new experiments with Jürgenson at his home in Nysund. Experimental procedure and results are given in detail.

Five of the clearer voices were submitted for analysis both by independent listeners and by visible speech diagrams : the testing was arranged by Mr. J. Sotscheck of the Acoustic Research Group at the Central Office for Telecommunications in Berlin.

Prof. Bender concludes with suggestions for further investigation, which is urgently required in view of the encouraging results of the exploratory experiments described in his paper, and his thanks to Mr. Jürgenson for his unconditional readiness to put himself unselfishly at the disposal of parapsychological investigation.

3. Some Results.

The voice, 'Rasmus', was mentioned in Report 8 (p.39). Good quality moving-coil microphones, made directional by attaching to each a cardboard tube about 30 cm. long, had been arranged as follows : Jürgenson, beside him Bender, at the opposite end of the table Dr. J. Keil and engineer N. Lemke, and a universal microphone suspended over the table. Jürgenson, on whose directional microphone track 'Rasmus' was most loud and distinctly perceptible, did not know the name. Prof. Bender (the next best recorded) could not have produced it by whispering, for, as mentioned in Report 8 (p.39), it would seem impossible to change the voice in the short determinable interval of 0.05 sec. from the unvoiced quiet whispering of this utterance to the voiced and loudly uttered 'I' of 'Ich'. In addition, he was struggling to control a fit of coughing, which put pressure on him to finish his sentence. The recordings from Keil and Lemke, who were not familiar with the name, 'Rasmus', were sufficiently quiet to be below the level of recognition. This result points to Jürgenson as the originator of the 'recording'. As he did not know the name, it is conceivable that he learnt of it from Bender, who was sitting next to him, by telepathy. The enigmatic effect assumed on this interpretation must then have impinged first on Jürgenson's microphone, then on Bender's and on the microphone connected to the universal recorder.

They agreed to follow this up with an experiment in which they were to observe one minute of strictly disciplined silence after the test conversation with the instruments still working. 22 secs. before the end of the interval, the oscilloscope was seen to make a sudden movement. This was found to correspond to a 'recording' recognised by all participants as a remark in English. Everyone understood, 'Stop as you like..' The rest was less clear but was identified after several playbacks as, 'One pause' (pronounced like the German 'Pause' but without the final 'e'.).

The results of the analysis tests showed that on comparing the results of the grading with the visible speech analysis, the more ambiguous the analyses of the visible speech process were, the greater were the differences in the free interpretation. The letters identifiable by analysis were also to be found in the otherwise very much differing interpretations of the listeners. With the free interpretation no adequate agreement in the interpretation was reached in any one case. Frequently, individual sounds but not complete words were understood. The evaluation of the multiple choice (from 9 very similar alternatives) grading showed that 3 out of 5 were correctly recognised with statistically significant majority.

I am very grateful to Prof. Bender for allowing his paper to be translated and published in English and his results quoted in my reports. I strongly recommend anyone interested to consult and read the full paper.

B. PYE Experiments at Gerrards Cross 24.3.71

I visited Mr. Kenneth Attwood on 27th March and discussed the experiment which he had conducted a year previously. He was able to supply the following details.

The experiment had been made with a Nagra professional tape recorder recording at 7½ i.p.s. on the whole width of the tape. Three methods were tried : a simple diode circuit, which produced only white noise, a radio tuned to some point in the medium wave-band, which was very much a dead loss, as there were far too many interfering broadcasting stations, and the microphone method, which thus produced the

only successful recordings. No special precautions were taken against r.f. pick-up other than ensuring that no high-powered radio or TV transmitters were in the immediate vicinity.

Fifteen people (but not Mr. Bander's dog) were present, and Mr. Attwood and his colleague, Mr. Ray Prickett, departed at about midnight, taking the tape with them. Unfortunately, Mr. Prickett has been ill recently, but I have been promised a copy of the tape when he is fit again. When I have heard it, I shall of course be able to give further details of the results of this experiment.

The voices on the tape were analysed by Dr. Raudive and Mr. Bander, who did not always agree on their interpretations. Mr. Attwood remembered the voice (see Report 7, p.35) which was heard just after Mr. Bearman had given his name. He had heard clearly the English words, 'You are deaf'. It will be noted that Dr. Raudive and Mr. Bander had heard the Latvian, 'Kurla', which has the same meaning.

20th May 1972

REPORT 19

1st April to 31st October 1972

Preliminary.

My tenure of the Perrott-Warrick Studentship expired on 30th September, but as I had not yet taken up any further studies this report covers the month of October as well. Although my full-time study of the voice phenomenon is now over, I shall maintain an active interest, and may issue further reports if there are any new developments of sufficient interest.

Not all my time during this period was devoted to the voice phenomenon: I was invited to participate in the Parapsychology Foundation's 21st Annual International Conference at Amsterdam in August and spent some time preparing a paper for this. I also attended the Parapsychological Association Convention at Edinburgh in September. As my present Studentship was due to expire at the end of September, I explored a number of possibilities of further work in psychical research and wrote appropriate applications. Considerable attention was given to the case of Mrs. C.N. of Shipley (see Report 17, p. 77), resulting in a Parapsychology Foundation Grant to continue the study.

Further Progress.

1. General.

At the suggestion of Mr. H. V. Bearman, I visited Mr. G. A. Player in London on 2nd May. Mr. Player has an old PYE radio which he believes is permanently inhabited by a (female) disembodied spirit. When suitably adjusted (originally on the long wave band, but now more frequently on the medium band), the radio emits various clicks and crackles, which Mr. Player interprets as manifestation of this spirit, revealing her mood, which ranges from disinterest to excitement according to their frequency and loudness. She loves watching TV, clicking appreciatively during the programmes. She also reacts when the light is switched on or off: Mr. Player thinks she acts as a sort of capacitor.

The radio has an aerial consisting of a long coil of wire covered, except for about a centimetre at the end, with yellow insulation. Loud crackles are heard if the end is touched, but merely holding the coil also improves the manifestations. Mr. Player grew tired of continually holding the coil himself, but discovered that the same effect could be achieved by resting a couple of oranges on it, and standing a milk bottle with some water in it nearby. The reception also depends on the area

in which Mr. Player resides, and when he changes his residence it is necessary to leave the radio on continuously for 2-3 days to enable her to line up on the new position. I asked Mr. Player whether, in addition to the clicks and crackles, he had ever heard any voices? He replied that production of these was very difficult and they occurred only rarely. Those he has heard, however, have made appropriate comments, such as, 'I wish I could speak better' and, 'I would tidy your room myself if I could!' Indeed, it was a voice which had started everything, by remarking, 'We could use that' when he was doing something to his radio.

Mr. Player said he hoped to develop this means of communication (presumably to get more voices instead of just clicks), but was handicapped by his rather elementary knowledge of electronics. He had tried changing the valves (no effect) and intended to tackle the aerial next, and then possibly introduce a second loudspeaker transformer. I wished him success in his endeavours.

Mr. Joel Honig, a young freelance writer and musician from New York, came to see me on 22nd May, and we discussed the voice phenomenon in detail. As mentioned in Report 14 (p.64), I was in the process of re-examining the tapes from the experimental week at Bad Krozingen, so I was able to demonstrate a number of voice samples to him and he to offer his comments. I listened to a number of voice recordings which Mr. Honig had made, and noted the presence of a background of radio voices in the case of those made with the 'diode' method. There certainly appeared to be voices on the microphone recordings, but it is hard for someone who was not present when they were made to assess the probability of such effects being due to natural causes. Mr. Honig had also sent me a tape of voice samples, which I had copied and sent on to Dr. Raudive. These will be used in listening tests (Report 20).

After seeing me, Mr. Honig spent about six weeks on the Continent, during which he visited Dr. Raudive at Bad Krozingen. He later wrote from New York (9th July): "My five days with Dr. Raudive were well worthwhile, primarily for acquiring first-hand working knowledge of how he operates. Also, it proved to be quite an education in listening to the voices ... I left Bad Krozingen inspired, intrigued, but with many misgivings. ... Then there is the problem of 'hearing'. ... anyone engaged in this research should first be subjected to ... standardized tests ... If I am successful in obtaining the research grant I have applied for, and assemble a group of co-workers, such a test will be a first requirement; and those who do not measure up to a predetermined standard will be eliminated - and that includes myself." Continuing his experiments with the microphone method, Mr. Honig wrote (14th October): "I'm now starting to wonder if one process in the phenomenon is not the modification of random or mechanical noises to produce 'words' or phonemes. Auto horns, subway trains passing, even wood being sawed seem to take on an entirely different character when heard on playback." He also reported: "Using an 8-ohm loudspeaker in place of a dynamic microphone (250 ohms) yields louder, clearer, and more frequent 'utterings', mostly whispered but of rather good comprehensibility." Mr. Honig has also assisted my research by sending me details of 4-track in-line tape recorders (see Report 15, p.71) now available in the U.S.A. (where the current surge of interest in four-channel sound has resulted in more reasonably-priced machines).

I met Mr. E. R. Hughes and other members of one of the two S.A.G.B. Research Committees on 5th June. I acquainted them as much as I could with the current state of the voice phenomenon and the problems, doubts and difficulties involved. We agreed that a profitable line of approach might be to try to obtain voices under séance-room conditions or in the presence of mediums, and as a first step it was hoped that some experimental work might be undertaken in co-operation with the direct voice medium, Mr. Leslie Flint (the idea being that he might try to cause a voice to be recorded on a tape without its being audible at the time of recording). I was pleased to note the Committee's interest in the phenomenon and I look forward to our further collaboration.

Mr. Laxsminarayana (Andhrapradesh, India) visited me on 16th October. He had recently visited Dr. Raudive and been much impressed by a (microphone) recording on which his mother had said a few words to him in their native tongue (Telugu). He was having difficulty in obtaining components to build the 'diode' circuit: fortunately I had a spare one which I was able to give him.

Mr. Michael Taunton visited me on 25th September. He had made a number of recordings - collecting some 3,000 voices - with the microphone method between June 1971 and February 1972, when he decided that he was in contact with undesirable and potentially dangerous entities and reluctantly ceased further experimentation. He played me some of the clearer voices from his original tapes, but I found myself unable to hear them very distinctly, and there was also a considerable amount of environmental noise in the background. One of the voice effects sounded very like those of Dr. Raudive's which I had rejected as being of 'mechanical' origin. When I commented on this to Mr. Taunton, he explained that this was one of the factors which had led him to conclude that it was paranormal: he normally rejected anything sounding like a voice as being probably of natural origin. Consistent with the mechanical quality of their speech - knocks, bangs, scrapes and rattles interpreted phonetically as English words - Mr. Taunton believes that the communicating entities are not human, deceased or otherwise. Apart from the messages themselves, various poltergeist-like occurrences: bangs and electric shocks, which he experienced in connection with his recordings, discouraged him from continuing. I played Mr. Taunton some of the tapes which we had recorded in Bad Krozingen, and he noticed a 'Kosti' which I had been unable to hear.

2. Correspondence and Information.

Mr. D. Scott Rogo (Los Angeles) wrote to me in May, expressing interest in the voice phenomenon and enquiring whether he could accompany me on a visit to Dr. Raudive during the summer. I agreed that a further experimental session would be useful, and a visit was arranged for 2 - 3 days at the end of August, immediately after the P.F. Conference. Unfortunately, however, my car began using oil at a rather alarming rate during the summer, forcing me to abandon for the time being any idea of further long journeys on the Continent, so, much to our regret (and Dr. Raudive's), the trip had to be cancelled.

Mr. J. de Rivaz wrote (24th May): "... the next order of magnitude breakthrough could well occur suddenly to someone, either amateur or professional, whether they are conducting a high-pressure campaign of research or not. Personally, I would doubt very much whether... large sums of money or vast engineering expenditure would provide this sort of breakthrough. Organized research is all very well when it is a case of arranging existing technologies to perform a specific task, as is the case with rocketry and suchlike. But with the voice phenomenon there is no available technology to organize. The existing technology of electronics which is being used is not being asked to answer a specific problem... As far as down-to-earth electronics goes, it would be impossible to arrange anything to receive messages from a hypothetical world. It is not a case of getting more bandwidth, higher gain, or less distortion on some specific means of communication. So far no one really knows through what medium of communication spirit messages are transferred to the tape. If someone could do some definitive experiment that would prove beyond all reasonable doubt that, say, the voices were coming in by means of VLF radio waves, then maybe it might be worthwhile to get a team working on the problems of designing a suitable transmitter/receiver unit. ... But, as far as I know, of all the definitive experiments that have been done, none show any indication of how the messages come in - only how they don't!" Mr. de Rivaz also sent me information about 4-track in-line tape recorders.

I spoke to Prof. Bender at the P.A. Convention at Edinburgh on September 5th. He said that he had not conducted any voice phenomenon experiments recently, as Mr. Jürgenson was busy setting up a centre in Italy for study of the phenomenon.

Having read his article published in *Psychic News* (2nd Sept.), I wrote to Mr. R. K. Sheargold on 18th September hoping to arrange a meeting with him. Unfortunately, my letter caught him at a rather busy time, when his wife was unwell, and he was unable to see me. I then sent him a tape onto which I hoped he might copy some of the clearer voice samples which he had recorded, but he sent it back immediately with a note explaining that he felt that this 'would serve absolutely no purpose whatever'. However, he did send me his *Hints on Receiving the Voice Phenomenon*, which gives useful advice for beginners, although it does not contain a great deal that cannot be found in *Breakthrough*, and it presupposes that the phenomenon is genuine. Mr. Sheargold feels very strongly that the voice phenomenon is in no way connected with mediumship.

Dr. Raudive has been writing a second book on the voice phenomenon, and kindly asked me to write a contribution for it. Pressure of other work caused this to be delayed, but I eventually sent it to him on 26th October.

3. Other Sources of Voice Recordings.

When Mr. Scott Rogo came to London in August, he brought a tape of the direct voice effects of Mr. Attila von Szalay, and subsequently lent it to me so that I could copy it. Although a few phrases can be heard quite clearly, the voices are in general of similar audibility to those which Dr. Raudive records: indeed, on listening to them anyone familiar with Dr. Raudive's recordings will find the resemblance quite striking. There are, however, a number of differences: Mr. von Szalay's voices are almost invariably in (American) English, and many of them can actually be heard at the time of recording, in the sound-proof cabinet in which Mr. von Szalay sits, or perhaps through one of the trumpets which he uses. The remarks with which he concludes his commentary on the tape, however, indicate that he also uses the 'diode' and other electronic methods, although he believes that all his voices are acoustic in origin. (In case this should be thought to be irreconcilable with use of the 'diode' method, perhaps I should explain that Mr. von Szalay postulates that the communicating entities build an ectoplasmic structure by which the speech vibrations are transmitted to sensitive components in the circuit which have a microphonic function. There is thus no need to suppose the existence of 'astral' broadcasting stations.)

A number of the voice samples on the tape had a distinctly mechanical quality, so much so that in some cases one might reasonably doubt whether they were voices at all. Clearly, Mr. von Szalay and his collaborators have the same problems as Dr. Raudive when it comes to interpretation of the voice effects recorded. It would be interesting to know whether the experimental arrangement used for Mr. von Szalay's recordings precluded sounds of any kind being picked up by his microphone (in other words, how good the sound-proofing was), for if the sounds, whether voices or not, could be shown to be of paranormal origin this might throw some light on the other 'mechanical' voices, recorded by Dr. Raudive, Mr. Taunton and others.

I visited Mr. and Mrs. ---- again on 26th September. Although Mrs. ---- has listened carefully for 'extra voices' since hearing her first examples, she had noticed only one more since my last visit: a whisper which she said was not very clear. As she has had a number of sittings with mediums during this period, this would indicate that the effect does not occur very frequently.

I visited Mrs. V. Powell at Kenley on 14th August, and listened to and copied sections of tape-recordings of two sittings which she had had with the medium, Mr. David Young. On each were audible extra words, not apparently spoken by the

medium but nevertheless reinforcing what he was saying. About half-way through the first sitting (which lasted some 45 mins.) a simple message was uttered twice, in a hoarse whisper, and during the second (which was very short) another very simple message occurred no less than six times, sometimes clearly and sometimes indistinctly.

The recordings were made on a cheap cassette recorder, which was operated by Mr. Young, who held the (not very sensitive) microphone in his hand as he was talking. Although he could possibly have uttered the 'messages' himself - they occur between his words and could have been voiced as he was taking a breath - it is debatable whether he could have done so, particularly on the second occasion, without Mrs. Powell noticing, as she was sitting only a few feet away from him. Moreover, the extreme agitation which he showed on playing back the tape of the second sitting and hearing the extra voice on it is hardly consistent with deliberate fraud.

If the voice effects were genuine, they show several interesting features, perhaps the most important being their relative clarity (see Report 20) and the evidence of purpose shown by their repetition. It is interesting to note that Mrs. Powell's husband, through Mr. Young, said he was trying to communicate with her directly and mentioned direct voice. The final message of the second sitting was, 'he says ... the experiment is completed now.'

It was obvious that the next step in the study was to see if the voice effects could be repeated under more controlled conditions, so with the help of Mr. Hughes a further sitting was arranged for Mrs. Powell with Mr. Young at which I was able to be present, record the proceedings on my own machine (with the microphone at some distance from the medium) and listen carefully for any extra voices. However, although the results were otherwise very satisfactory, no such voices could be heard on the recordings. Mr. Powell had been a scientist and finding a fellow-scientist in myself spent most of the session talking to me. He declined to put his voice on the tape, but suggested that Mrs. Powell and I should sit for this purpose quietly by ourselves with the tape running and perhaps some music in the background. Study of this case is continuing.

A further visit to the lady concerned with the poltergeist disturbances in Enfield (see Report 12, p.55) was made with Mr. Cassirer on 10th October. She had moved house since our last visit, but most of the phenomena seemed to have moved with her. Several recordings were made but no definite voices heard, one problem being the increased volume of traffic noise at the new address. Mr. Cassirer is continuing his study of the case.

19th January 1973

The Studentship expired at the end of September 1972, but the work continued. It was, in fact, to go on for nearly another eighteen months, interspersed with other activity. Gradually the reports were finished and the work written up and published. Work was started on an article for the *Proceedings of the Society for Psychical Research*. Then in March 1974, having failed to find any further opening in psychical research, I left Epping and moved down to Sussex. Psychical research continued as a spare-time interest, the highlight being a visit from Dr. Jürgen Keil in April. At the beginning of July 1974 I came back to Epping, and shortly afterwards moved to Harlow, but for the next two years or so I found myself with very little spare time in which to finish writing up my work on the voices. Only recently has the situation eased and allowed me to continue with this book. But let us return to 1972-3, and the next major step in the voice phenomenon research - the listening tests.

LISTENING TESTS

REPORT 20

Listening Tests
1. 29th November 1972
2. 24th January to 12th April 1973

1. Procedure.

Listening Test 1 was conducted with a group of eight members of the Cambridge University S.P.R. (Mr. A. D. Cornell (President) and seven students). The purpose of the test was explained and the tape played on a Stella ST458 4-track recorder through a Sinclair 'Project 60' amplifier and a 'Ditton 15' hi-fidelity loudspeaker. The participants wrote down their interpretations, usually while the tape was being played. On rare occasions comments were made, but the influence of these on other listeners' interpretations is not thought to have been very great. (They provoked argument rather than agreement.) Listening Test 2 was conducted by post, the tape being sent in sequence to a number of people known to be experimenting with the voice phenomenon. Some of their friends, relatives and colleagues also took part.

The tape for Test 1 was made up solely of the voice phrases without any context. However, as I was present, I was able to indicate (by a suitable gesture) which sound required to be interpreted. The tape for test 2 included 5 - 10 seconds of context (copied directly) for the first two presentations of each effect. The voice effects themselves were copied onto the listening tapes from 31-inch loops running usually at 15 i.p.s. on a Brenell STB1 stereo recorder (Section I, Test 1) or a Brenell Mark 5 M 2-track mono recorder (other Sections Test 1 & all of Test 2). For the voice effects in Section I (Test 1 only), the loops which had been recorded during examination of the recordings made at Bad Krozingen were used; other loops were prepared as required from the original recordings or the best available copies of the voice effects in question. In both tests, each loop was repeated 20 times (except for 7, 8 and 9 in Section VII: 10 times).

The tape for Test 2, being sent unannounced and without a covering letter, was labelled as follows: -

Tape of voice samples for

Listening Test No. 2

This tape has been recorded at 3¾ i.p.s. on tracks 1 and 4 and may be played on two- or four-track recorders.

D. J. Ellis 24th January 1973

Dear friend and fellow-student of the voice phenomenon,

I am sending you this tape in the hope that you might be interested in cooperating in an experiment in interpretation of some of the voice effects recorded by Dr. Raudive and myself. The tape contains instructions and voice samples. Please listen carefully, using headphones if you normally do so, and then send your interpretations to me - and forward everything else to the next person on the list. If for any reason you are unable or unwilling to take part in this test, I would be grateful if you would kindly pass the tape on and return a blank form to me.

Yours sincerely, David Ellis David Ellis

72C, The Lodge, The Plain, EPPING, Essex.
Tel: Epping (STD 0378)(London 375) 2740

Further instructions and explanations were recorded at the beginning of the tape:

"This tape of voice samples is sent to you not to test your powers of hearing but to try to establish a more objective interpretation of each set of sounds than can be made by one person by himself. Some of the effects will be loud and relatively clear, others faint or indistinct. Each of the fifteen sounds on this tape will first be presented twice in the context in which it was recorded, with a statement of the recording method and date, and the sound itself then presented twenty times.

"When you have listened to each voice, and before going on to the next one, please write down what you heard, either in phonetic spelling (as is found in dictionaries) or, if you prefer, in normal English, or if you feel that the voice concerned is a word in a foreign language (such as German), in the spelling appropriate to this language. Not all the sounds may in your opinion be voices. If you feel that any given effect is not a voice, please indicate this clearly and, if you like, suggest what you think it may be. You may listen to the tape as often as you feel is necessary.

"When you have finished, please send your set of interpretations to me and forward the tape and remaining stationery as soon as possible to the next person on the list. If there is any information which you wish to know, or if you have any queries, please do not hesitate to telephone me at Epping 2740. Thank you for your help and cooperation. Yours sincerely, David Ellis."

After the last sample the tape concluded: "This sample concludes the set of voice effects in this listening test. Thank you again very much for your patience and cooperation."

In addition to the tape, the package included interpretation forms, stamped forwarding labels and stamped addressed envelopes for return of the forms. The interpretation form asked for the following details: name, tape recorder used, whether headphones used, interpretations and comments for each voice sample, signature and date. All were received safely (and in accordance with the instructions) and the participants were thanked as they arrived. Friends, relatives and colleagues had been encouraged to take part, and record their interpretations independently.

2. Results.

tape sent to	others taking part	recorder	headphones used	
Mr. C. T. Ferguson		Sony	*	
Mr. Richard Gill		Brenell Mk. 5		
Mr. Francis M. G. Morton		Philips 4307	*	
	Mr. Robert R. J. Langford	"		
Mr. Philip Rodgers		Marconiphone		
	Mrs. Joan Rodgers	"		
	Mr. Paul Carling	"		Test 2
(Mr. R. K. Sheargold)				
Mr. Simon Stark		Grundig		
Mr. Michael G. F. Taunton		Philips 4307		
Mr. K. H. Turner		Philips EL3556	*	
	Mr. D. R. Stockley)	"	*	
	Mrs. J. E. Stockley)			
	Mr. L. F. Ryan	Philips	*	
	Miss E. M. Ryan	"	*	
	Mr. R. A. Andrews	"	*	
	Mr. C. Dobbs	"		
Total taking part: 16	Mr. C. J. Appley	"	Number using headphones: 7	

Mr. Sheargold did not take part, but courteously passed the tape on and returned a blank form telling me that he had done so. Mr. and Mrs. Stockley appear to have worked together, so they are counted as one person.

The interpretations received are given below. For each voice and test their order has been rearranged so that similar-sounding ones are as much as possible together, to give the effect of a gradual transition from one extreme to the other. Naturally in some cases this was rather arbitrary, but in others it has worked out quite well. For some voices for which the agreement was good the interpretations were split up into sections, each of which was ordered separately.

Comments are also given, and italicized to distinguish them from the interpretations. If the same comment was made by more than one listener, the number who made it is indicated. The interpretations were checked and copied out carefully while listening to the relevant tape, and where it was obvious that the listener had interpreted the wrong sound (i.e. part of the context) the interpretation was rejected. Some listeners offered alternatives: alternative words are separated by / , phrases by // . ? indicates that the listener found some of the sounds unclear.

For each voice sample the following information is given: number in section, participants (see Key below), date, the experimenter's interpretation (in most cases, Dr. Raudive's), my suggested interpretation (where applicable) in brackets, and the context as given in Test 2 (position of voice effect marked *). The experimenters' and my interpretations were not, of course, disclosed to the listeners, although it is possible in some cases, especially in Test 2, that they were aware of the various interpretations through reading my reports, listening to the record sold to illustrate *Breakthrough* or even from coming to one of my lectures. Voices mentioned in those of my reports which had been distributed before the tests have therefore been marked * (just before the number), those on the record **, and those included as illustrations in my lecture to the C.U.S.P.R. (26.11.71) marked + .

Key to participants in voice recordings.

C =	Mr. Manfred Cassirer	P =	Mrs. V. Powell
D =	Miss Mary Driver	R =	Dr. Konstantin Raudive
E =	Mr. David Ellis	U =	Mr. R. W. J. Uffen
H =	Mr. Joel Honig	XX =	Couple living in 'haunted' house in Enfield
J =	Drs. Johannes Koot	Y =	Mr. David Young
K =	Frau Else Kolbach	- =	Mrs. ----
N =	Mrs. Ivy Northage	+ =	Mr. Honig's collaborator, J.C.

INTERPRETATIONS AND COMMENTS

Section I: Voices from experiments at Bad Krozingen (See Report 14) Microphone.

*1 CDER 31.10.71 George (patodge)

R: er... Mademoiselle Mary Driver, are you somewhat to say? D: oh... I don't know anybody I think, er, except George of course (um he) also the same as Manfred: we have a friend, George. *

totch	Test 1.1	
touch		
touch/torch		
touch/torch		
torch	*male*	
torch		Test 2.1
torch/George		
George		*male 6*
George		*soft*
George		*involuntary*
George		*whisper 2*
George		*played*
George/teorge		*backwards*
torge		
torge		
torge		
torj		
ettorge		
told you		

Discussion.

The most common interpretation in Test 2, "George", is totally absent in Test 1: this may be due to the context being given in Test 2 and the suggestion of 'George' either as an appropriate message or as an involuntary whisper. All the interpretations, with

the exception of the rather strange "told you", are very similar, and both "George" and "patodge" would seem to be reasonable.

Conclusion.

This voice effect is very probably an uncontrolled utterance, imperfectly articulated, "George".

---

*2 CDER 31.10.71 tactful (tact/tuct voll/ful)

R: .. and my dear friend, er .. David? E: Perhaps someone present would like to say something about the future of the Stimmenforschung: what is the best thing to do next? *

Test 1.2

doktopper
dopte
dut
to - te //*mechanical*
mechanical 2

male

Test 2.2

wonder
tot
stop it
stop it //*mechanical*
mechanical ? *male 2*
clicking sound whispered
clock *quickly spoken*

Discussion.

The overwhelming verdict of Test 2 is that this voice is a mechanical sound. Test 1 is slightly less emphatic, but even the interpretations suggested are strongly onomatopoeic. The interpretation, 'tactful', receives no confirmation. This is disappointing, as the voice was heard as such by those present and by Mr. Honig when he visited Dr. Raudive (although listening to the original in Epping he thought it more likely to be a mechanical sound).

Conclusion.

This effect is a mechanical sound. The interpretation "tactful", suggested by one of the participants and agreed by the others, seems to have been inspired more by the situation than the sound on the tape.

---

*3 CDER 1.11.71 ich habe (ich habe)

(hiss) E: Here endeth the Goniometer Einspielung. * The time is now five minutes to twelve.

Test 1.3

of a
kh (explosive k sound)
tape noise
mechanical
male
soft voice

ist abring //ich habe
ich habe *male 4*
ich habe *in background*
this is final
zeppi - pa *distant*
er - ber *foreign*
ar - ?

Test 2.3

Discussion.

Most of the listeners were unable to hear this voice, or interpreted the snatch of context which was unavoidably included with it. Among those who did hear it, there is quite good agreement on "ich habe" or a similar sound. I am not entirely satisfied that the listeners who chose "ich habe" were free of influence of the interpretation given in Report 14, although there is little indication of such influence in their other interpretations.

Conclusion.

That a distant voice says "ich habe" seems not unreasonable. Where, who or what it was cannot be ascertained from the tape.

*4 CDER 2.11.71 (a) trotsig (b) so sicher (trutzgehören)

* E: Here beginneth Einspielung Nummer neun.

Test 1.4

bird
bird twitter skea
tchvester
touch there
scratch on tape
machinery 2

so it's there
sixty year
voots - ta - ka
svetzia here
tsets there
tutsihre
tis - de - heer
bitz - er - kye
t'se - gar
tutsgar/tutsayar
tut die haar/haab
toyt - stera - hard
wrong speed voice

Test 2.4

male 6
quickly
spoken
not English
German

Discussion.

None of the original interpretations are confirmed, although the third seems a little more likely than the first two. "t . u .. ts .. air" might represent a reasonable synthesis of the most popularly suggested sounds.

Conclusion.

The effect consists of an indistinct (quickly uttered) speech sound, with a suggestion of foreign, possibly German accent. My suggestion in Report 14 that what we have is the transient speech of someone present, probably C talking German, just caught as the recorder was switched on, would seem to be a very likely explanation.

---

*5 CDER 2.11.71 prast (tserek/tsyke)

E:. acht Uhr vierundzwanzig. Teilnehmer - as ever. *

Test 1.5

take (*Liverpool accent*)
tzeug/tzeig
salike
the legs
telek *male*
telek *German*
Tillich//to neck
tenek

slag/slaag/slack
sa rigg
s'rike/s'rikt
sie wicht
zurick/zuruck
tserec
ser - rec
ser - reck
sereck
serekt/serecht
serek/zenek
zenek
semec
so nek
sinike

Test 2.5

male 6
whispered voice as if in room
definite clear voice
Hungarian ?

Discussion.

This is the sort of voice that everyone can hear and make a fair try at interpreting. "tserek" is well confirmed by Test 2, but there is nothing very much to suggest that Dr. Raudive's interpretation, 'prast' is correct. It is interesting to note that five out of eight listeners in Test 1 (but none in Test 2) heard a 't' at the beginning, while all the listeners in Test 2 (but only two in Test 1) heard an 's', 'z' or 'ts' sound.

Conclusion.

A male voice says "tserek" or something very similar. Origin uncertain; uncontrolled utterance suggested. (It sounds very like C's voice.)

N.B. For further discussion of the interpretation of this voice effect, see the note in Report 22 (p.133).

*6 CDER 2.11.71 gute gute nacht (*spools rattling*)

R: Hat seine Forschung eigentwerke fordernte Bedeutung? .... *Dritte Frage: ...

Test 1.6

tape recorder noises
ta - ta ... cla *(horses' hooves)*
four clicks
pendulum clock
atick tick tock *(not a voice)*
tick tick tock
tje - tju - kluck
aph' c'k

Test 2.6

please keep it mild
buzz - tic - tic
tik tik tak
clock ticking
ticking noise
clicking noises
tapping noise
mechanical
mechanical
mechanical
mechanical

rhythmic background noise
rhythmic background
glottal stop of experimenter preparing to speak

Discussion.

Practically everyone has opted for a ticking or other mechanical noise. Even Dr. Raudive's 'gute gute nacht' suggests this sort of sound. However, we have one further, very interesting suggestion, which is that the effect is a 'glottal stop': a sound made involuntarily by the experimenter (Dr. Raudive) just before he speaks. Not many people are familiar with glottal stops, which would mean that one 'glottal stop' suggestion was worth a dozen 'mechanical noises'! If confirmed, this idea might explain other voice effects.

Conclusion.

This effect is either a mechanical sound or, possibly, a glottal stop. Confirmation of the latter idea by a phonetics expert would be desirable.

---

*7 CDE 3.11.71 minus (minu, *faint and indistinct, probably distant voice*)

Test 1.7

too late *(Scots accent)*
sheep groaning

Discussion.

As only two listeners in Test 1 offered an interpretation, this voice was deemed too weak for further testing and therefore not included in Test 2.

Conclusion.

The effect is too faint to be of any use.

---

*8 CDER Lenin (Lenin/Ledin) 5.11.71

Test 1.8

a window
ooed
glubboo
buduloo
dmm dmm
vum - vum *(bull-frog)*
low elephant call // sudden change in pumping machinery tape tension

*9 CDER Hans (hunin)

Test 1.9

eh
balloo
negee
merry *// mechanical*
zhum
thud
rubbing sole on floor

*10 CDER *muffled conversation heard through sound-insulating box (R asks question, E replies, sounds very like 8 and 9*

Test 1.10

Discussion.

Listeners were asked to compare sample 10 with 8 and 9. This instruction seems to have been very poorly understood, most listeners suggesting interpretations, some of which accorded reasonably well with what was said. Two only made the comparison: one could see no similarity, the other not unless 8 and 9 were taken from 10.

Probably they were comparing the actual sounds, rather than the quality of the sounds. Samples 8 - 10 were included only to obtain a second opinion as to whether 8 and 9 could have been, as suspected, muffled words coming through the box.

Conclusion.

No interpretation confirmed. 8 and 9 could be conversation in the room muffled by passage through the sound-insulating box, but the listening test sheds no further light on this possibility. In future it is essential therefore always to use a second microphone to monitor such conversation (and other sounds in the room).

Section II: Voices recorded by Mrs. V. Powell during sittings with Mr. David Young Microphone (See Report 19, p.85)

A PY 4.7.72 I love you *repeated several times*

(i)
I love you
I love you
I love you
I love you
I luv you
I love ya
allez

Test 1.11

male
whisper 2

(ii)
I ... love you
Ah Ly you
I'll ... you
I owe you
I can sue
sahser

Test 1.12

possibly same as (i)
male
whisper

(iii)
I - a luview
huh luv ?
hello here
hello hilt
(Buffalo Bill
Buffalo Bill *// steam engine starting up*
double action pneumatic hammer

Test 1.13

male
whisper

(iv)
mho - lhye
oluvieu/ahluview
all yah
coll - yer
carl er aya
cor eye a
quieter than there

Test 1.16

whisper

Discussion.

Despite the fact that (i) was presented first, listeners seem to have avoided the temptation to hear the same words in the other three. "I love you" is amply confirmed for (i), and the theory that the others are less distinct versions of it is not ruled out, although other interpretations are possible.

Conclusion.

A voice whispers, "I love you" clearly at least once. The speaker is very near to the microphone.

B PY 22.2.72 I love you darling *repeated*

(i)
I - gold lic *// I calling*
love-in honey/darling
I maluhya dahly
(I love you darling
I love you darling
love you Dorothy
a love you ni(ne)
a lovely crime

Test 1.15

(= influenced by comment
could be same as (ii)

(ii)
Hello who golly
I luview paulie
I love you darling
I love you darling
I love you Horlick
cor - out - you - orlick
I am a dalek
German word

Test 1.14

male
whisper

Discussion.

Although less clear than A, "I love you darling" is adequately confirmed.

Conclusion.

A voice says, "I love you darling", twice, fairly clearly.

Section III : Microphone voices

1 EP 12.11.72 I got it (maggot/agate) (See Report 22)

P : What is Pete ... what ... * ... what (something) Peter is doing ..

	Test 2.15	
I imagine		
(ver)gessen		
die cussen		
mackeson	*male ?*	
mackinson //my cousin	*more like male*	
my cousin	*indeterminate, could*	
my cousin	*be old female*	
my cousin	*very quickly spoken*	
my cousin/dozen	*gutteral sound or word*	
my cousin //unpleasant	*German*	
presene/present		
he doesn't		
hasn't/chasm		
abbot		

Discussion.

"My cousin" or similar is by far the most popular suggestion, but there is a fair range of other interpretations. A speech therapist at a London hospital listened to the tape and said that the sound was quite definitely an unconscious utterance by P. While not strongly supporting this theory, the results of the test are tolerably consistent with it. Mrs. Powell is most unlikely to have said, 'my cousin', but could have made some arbitrary sound as she was trying to read her (automatic) writing.

+ *2 CER 20.5.71 Cutten (Cutten) (See Report 8, p.39)

C : ... daß gehört. R : *Wie ...

	Test 1.36	
hurt her		
data		
dudder		
dada	*breathing*	
ab da	*could be male*	
gebücken		
captain		

Discussion.

Although it is clear that the listeners are trying to interpret the same sounds, there is little agreement as to what they are and no confirmation of 'Cutten'. The voice is hard to hear under the loud 'Wie' from R. It is probably some uncontrolled utterance.

Conclusion.

Neither voice in this section is clear enough to be identified, and in the absence of further evidence we may tentatively assume them to be unconscious utterances.

Section IV : Voice recorded by Mrs. ---- during sitting with Mrs. Ivy Northage
Microphone (See Report 6, p.32 and Report 9, p.46)

+ *1 -N 18.3.71 his mother

	Test 1.17	
mother		
his mother		
his mother		
his/here's mother	*female*	
here's mother	*whisper*	
yes mother		
yes mother		
yes father //brother		

Discussion.

"mother" is amply confirmed; there is some doubt about the first word.

Conclusion.

A voice whispers, "his mother" or "yes mother".

In view of the good agreement reached on the voices in Sections II & IV in Test 1, it was not thought necessary to include them in Test 2.

Section V : Voice recorded in 'haunted house' at Enfield (See Report 12)
Microphone

*1 CEJXX (in adjacent room) 15.9.71 Go out! Go out! Stay out. Get..
X : (laughter) C : (unclear) .*.. you have a cine camera.

Discussion.

The first words, "Go out, go out", were heard fairly clearly, but the rest is indistinct. Comments that the speaker was female and had a 'London accent' and that the voice sounded like the other conversation heard through the kitchen door suggest that the speaker was the lady whom we were interviewing. It certainly sounded like her voice, as even her husband agreed. But if it was, certain features remain unexplained: why was the voice louder than the rest of the conversation, why did she speak when Mr. Cassirer was talking to her, and why did she subsequently continue the conversation, having heard what he said to her, as if she had not spoken? Why did we not remember the incident? One can only suppose that it was an angry aside to her dog. (But why tell it to go out when it had just come in?) If instead the voice is supposed to have come from outside or upstairs, its loudness and clarity in comparison with our conversation, which came through a thin door (as distinct from a stout outer door or the ceiling), must be explained.

ghoweup, ghoweup ..... ghoweup ya		
go out out down Gideon	*(Australian accent)*	
go out back be out giny		
go out ... perhaps then ... get out	*female*	
go out ... get out		
they're out they are //you're right they are, they are		
you're out and about then	Test 1.18	
here mhe ou I a		
get out get out get out of herein		
gerrout gerrout	*female 9*	
go out go out go ant	*London accent*	
go out go out get ?	*Cockney accent*	
go out go out	*German*	
go out go out	*nearby person perhaps*	
go out go out	*in house next door*	
go out go out	*like conversation*	
go out	*heard through wall*	
go out		
go out, go out and stay out, will you		
go how go hair		
come out come out	Test 2.7	
here I am		
das wär(e) schön		

Conclusion.

A female voice says, "Go out, go out ....." The only reasonable natural explanation is that the lady being interviewed in the adjacent room was speaking harshly to her dog. It is recommended that further recordings are made in places associated with poltergeist activity.

Section VI : 'Diode' voice recorded by Dr. Raudive and thought to be in English
(See Report 3, p.20 and Report 7, p.34)

****1 R (date not known) Te Mark Cloo, may dream, my dear, yes!
(..... make thee mightier yet)

	Test 1.33	
make beans my lovely		
late sleep I'm serviette ong		
lately mikye bien		
late leave Mike shairries	*male*	
let's leave Michael here Kevin		
nimst die Michael as yet		
make me quite clear gemmell		
methylene Mike is here		

Discussion.

This voice, one of the clearer 'diode' voices, was included because the interpretation, 'make thee mightier yet', had been suggested independently by several people, including myself, and many others seemed to agree with this interpretation. I wanted to see

how general such interpretation was, and how much it depended on suggestion. The wide range of fairly similar-sounding interpretations shows that the voice is by no means clear enough to be heard unambiguously.

Conclusion.

The popular interpretation, 'make thee mightier yet', for this voice is as much a 'projection' onto the sounds on the tape as the other interpretations.

Section VII : 'Goniometer' voices (See Report 10, p.49)

+1 ERU 22.9.70 Ines dă (Unus dua)

(hiss) * (hiss)

Discussion.

This voice and the next were recorded during my first visit to Dr. Raudive (See Report 1, p.11). These were the 'one or two' effects which I described as 'quite startling in their loudness and clarity'. Yet the 24 listeners have produced 27 different interpretations. Some of these, admittedly, are closely similar, but there is quite a difference between 'Denis Wood', agreed by three listeners in Test 2, and 'guess what', suggested (more or less) twice in Test 1.

Test 1.19

yes a - woo
here wood
here's twa
he is much // yes much
yes ppbwat
yes what *young*
guess what *male*
gyes wut

male 8
German 5
stilted
probably
two voices

Test 2.8

yes swoots
yes bush
here's foot
here put
erst put // er ist kaputt
erst gut // here's wood
dear Wood
sehr gut
inis gut
Venus twut
Venus good
Denis Wood
Denis Wood
Denis Wood/Woof/Wolf
danif wolf
here one

Conclusion.

The speaker is male, possibly German, but what he says is not quite clear enough to hear: "Denis Wood" might be a reasonable guess.

+2 ERU 22.9.70 Tja Mambrin (c'est mambrine)

(hiss tinkle/whistle hiss) * (hiss)

Test 1.20

sē mulendrēnas
c'est mon venir
say mumblings
sey man ben
semānthen *male*
ze alarm things
demanding *(American accent)*
command/come on then

male 7
German 2
bell heard
before voice 2

Test 2.9

Seeman Brenz
come on then
sa mun den
zu mand Wein
deman dring
samanda // the/sa man drinks
der Mann ringst
der Mann bringst
ze man rings
de man brings // the Mandrin's
de mandrins
demand Denis
demmon minus
zay - munn - drainus
sa mann veenis
Imam Rene

Discussion.

Here, except for 'come on then' (suggested once in each test), all the interpretations are different, yet very similar. Some heard 'de' at the beginning, others 'say', but no one confirmed Dr. Raudive's 'Tja' (Swedish: here is). Practically everybody got 'mon', 'mun' or 'man' in the middle and more than half heard an 's' sound at the end. This voice

effect is about as clear as it can be and yet remain below the threshold of correct interpretation. What is absent is that flash of recognition which adds meaning to the sounds, and makes the difference between guessing and knowing. Probably the speaker is German, so tests with native German listeners may yield better results.

Conclusion.

This voice is not quite clear enough to be understood by English listeners.

+*3 R 22.9.70 Wiederum Klemma (See Report 13, p.61)

? corneau
ai kar com au
Peter come dnau
hee clock dow
without doubt
di sē no por no
General Formosa
computer sounds

Test 1.21

male

Discussion.

Dr. Raudive interpreted this voice as a cryptic warning of imminent radio interference. A burst of music does indeed follow, but as no one confirms Dr. Raudive's interpretation it would seem more likely that he heard the music first and then worked out his interpretation.

Conclusion: This voice effect is indistinct.

+*4 R 22.9.70 Glaube du Cedin (See Report 13, p.61)

Discussion.

All except one heard "hello", but there is some doubt about the rest.

Test 1.22

American 3
male
radio 3

Hullo the ?
Hallo this is Peking
Hallo British/pretty peeky
Hello di dī di dī
Hello look who's keeping him
Hello badoopidoo
Hello .....
Tell all the kids you get

+*5 R 22.9.70 Romani Nimowald zamuchilsa (see Report 13, p.61)

good morning / reminding you/new about dimenshoes
reminding you about dimension
I'm reminding you about delta queue
and now they knew about Dellachew
demanding you or Harold dela chew
u th newa bowm commenchee
reminding you about galenshi
we will now dream about ?

Test 1.23

male
American 4
radio 4
TV announcer

Discussion.

This voice seems clearer than 4. "you about" is very popular for the middle and "reminding" for the first word. The sample is very likely therefore to be English, although what we are being reminded about is still a little uncertain.

+*6 R 22.9.70 ich folgu you tonight (see Report 13, p.61)

? for you come on
how were you tonight
on for you tonight
time for you tonight
we come for you tonight
he'll come for you tonight
he called for you tonight
he's flying for you tonight

Test 1.24

male
American 3
radio 4

Discussion.

Dr. Raudive's "you tonight" is amply confirmed, but most listeners heard the preceding word as "for". The beginning is doubtful, but the phrase is likely to be English.

+*7 R 22.9.70 Glaube du Cedin + Romani Nimowald zamuchilsa + (interpretation not known)

Test 1.25

Hello the .... we will now dream about ... on for you tonight on 208
Hello bidoopidoo reminding you about galenshi later on tonight on 208
Hallo British/pretty peeky, reminding you about dimenshoes we come for you tonight
Hallo this is Peking reminding you about ? later on tonight on 208 (on two aūdens
Hello this is Peking reminding you about dimensions later on tonight on 208
Hello this is Pete King reminding you about dimension later on tonight on 208
Hello this is Peter Jackson reminding you about a Dylan chew later on tonight on 208
Hello this is Dick Young reminding you about dellachew later on tonight on 208

Discussion.

The 'three voice effects' were presented in the continuous sequence in which they were recorded (and then each of the three sections separately again). The first two had already been presented separately as 4 and 5 above. Note the considerably improved agreement for these: they are all beginning to make sense now that they are heard more in context. The third part, not heard previously, is agreed by six out of the eight to be "later on tonight on 208".

+*8 R 22.9.70 (interpretation not known) + ich folgu you tonight + bona cui

Test 1.26

Southport Uraguay is on/is gone/we call home for you tonight at one o'clock
sangfroid au revoir Jack Duprée on for you tonight at one o'clock
John Frost au revoir jazz and blues it's all for you tonight at one o'clock
soft wash hard wash Nancy blue on for you tonight at one o'clock
soft wash Paraguay jazz and blues it's on for you tonight at one o'clock
soft rock hard rock jazz and blues all for you tonight at one o'clock
soft ones hard ones jazz and blues all for you tonight at one o'clock
? one ? one candy blues we call for you tonight at one o'clock

Discussion.

This section was presented complete, then each of the three sub-sections separately and finally the complete passage again. The middle part had also been presented earlier, as 6 above. Working backwards, the unanimous verdict for the last six words is "for you tonight at one o'clock". In the middle, "jazz and blues", suggested by four, seems very reasonable. The first words are a little less clear, but "soft rock hard rock" makes sense and accords well with the other variations.

+*9 R 22.9.70 (7 and 8 presented as one continuous sequence)

Test 1.27 Only one listener troubled to write it out again:

Hello this is Kid Jensen reminding you about Dimension later on tonight on 208
soft rock hard rock Jazz and Blues all for you tonight at one o'clock

Discussion.

This interpretation seems very reasonable. It is almost exactly the same as that offered some while previously by some members of Oxford University S.P.R. and given in Report 13.

Conclusion.

The whole passage is an announcement on Radio Luxembourg, the words being (more or less) as given (9). Correct interpretation is considerably aided by presenting the voices in sequence as well as in isolated sections.

+10 KR 26.9.70 dunkel Mond gesperrt

R: Wir jetzt versuchen den Weg erleichtern durch Goniometer. Bitte. (hiss) * (hiss)

Test 1.28

	de	m	al	ce	sp	echt	
	dunc	m	or	ge	spr	echt	
dunpn nord gespe	dunc	m	or	ge	spr/str	errt	
domke nunkeschpatt	dunk	m	or	ge	st	aat	
? geshtat	dunk	m	or(n)	ge	st	at	
dumchen morgestädt	dunk	m	on	gi	st	at	
dunka monkishter	dunk	m	on	ger	sht	at	
dunky mün kish - tā	dunken	m	on	hier	sht	at	
dun kan montishtic	dunt	m	ont	ke	sht	at	
don can monkey schtat	unt	m	ond/und	kve	sht	at	
foreign	kom te	m	unn	ki	schst	at	*male 8*
	sonst	m	unn	ki	schst	at	*German 6*
	zoog	m	un	ti	schst	at	
Test 2.10	zu	n	un	i	std	at	
	auf	n	uns	da	shd	a	

Discussion.

The interpretations of this voice are so similar that those for Test 2 have been split up into six sections, and each of these evaluated separately. A reasonable majority opinion would be "dunk(e) mor(n) geshtat", which accords fairly well with Dr. Raudive's interpretation. Note that in Test 1 most listeners heard a short syllable after the 'dunk'.

Conclusion.

A male German voice says something like "dunk(e) mor(n) geshtat".

+11 KR 26.9.70 Mond gestein gesehen

(hiss fades) * (hiss)

Test 1.29

				mont		st	ein	is	ehe	
				mond		st	ein	izz/az	ehe	
mon	dye	st	ein	mon	g	st	eing	az	eh	
mon	ge	st	eingizee	mon	ger	st	angg	az	ay	
mon	ge	st	ang is in	mon	gen	st	ang	az	ee	
mon	ke	sht	anger see	mon	ge	st	ang	ers	ee	
mon	ki	sht	angesē	mo	ge	st	ang	erz	ee	
mon	gi	scht	angeseh	mor	ge	st	ang	ez	ee	
mon	ti	scht	angezee	mor	ge	st	ang	ez	ee	
morn	te	shst	angazee	mor	ge	sht	ang	es	ee	n
				mor	ke	sht	ang	es	ie	n
foreign			Test 2.11	mor	ke	scht	ang	es	ie	n
			male 8	mun	ka	scht	ang	es	ie	n
			foreign	mun	ki	shst	ang/ern	es	i	n
			German 4	munn	ky	shst	an	eshs	i	n
				munn	gi	d	ing	l	y	ng

Discussion.

This one is even clearer. Test 1 interpretations have been split into four parts, Test 2 into 7, i.e. almost into phonemes. There is good correlation between the two tests. A reasonable majority opinion would be "mo r/n ge st ang es ee(n)". This is very close to Dr. Raudive's interpretation.

Conclusion.

A male German voice says "mo r/n ge st ang es ee(n)" or something very similar.

+12 KR 26.9.70 diese Farbigen

(hiss fades louder) * (hiss)

die kesthavagen
dee skavigum
ee bufamigun
die be/ge farrigen
eelen hamegan
die pfälligen
ze Italians

Test 1.30

two voices 2
male

de fegavagon
dies um anagon
easy cavya
in Italia
die Italigon
gestadigen/getadigen
dez e tadio
die Decabilung
sea de kay tarragon
de harrigot
dees argen
die Habin
die Kabin
dee cabin
die ?

Test 2.12

male 8
not English
German 3
Italian 2
Spanish

Discussion.

Although recorded at the same time as 10 and 11 above, this one is much less distinct. It begins 'die', there is an 'ar' in the middle and an 'n' at the end. For the rest, we are back to guesswork. Dr. Raudive's interpretation is as good as any.

Conclusion.

A male foreign, probably German, voice utters an indistinct remark, "die .... ar .... n".

+*13 KR 26.9.70 die gepulkten Menschen qual

(hiss) * (hiss) (rather faint, probably copy of this section not very good)

Test 1.31

die gepu nkt — nächsten kwat
die gepu nkt — menschen kra
die gepu nk — mensen craft
die gepu rk — mencin crāck
die gepu lk en — medsen quark
dee gepu lck en — metzin cluck
ze capu ck and — lechen krupp

two voices
male 2
German 2

Test 2.13

male 8 German 6
English person speaking German
ring of radio programme about it

the	du	f u	nk		m e	nns	a	kvaar
the	de	p u	lk		m e	ns	en	quar
die	de	p u	ck		m e	ns	en	cra
die	de	p u	k		m e	ns	en	cra
die	ge	p u	k/t		m e	nc	en	cra
die	ge	p u	t		m e	nsh	en	kra
die	ge	p u	t		m e	nsch	en	kra
die	ge	p u	t		m e	s	en	kra
dee	ge/ka	p u	t		m e	s	en	krag
de	ga	p u	t		m e	ss	en	kraat
de	ga	p u	t		m e	ss	in	fahrt
de	ga	p u	t		m e	ss	in	plat
de	ka	p u	t		m e	ts	ing	clock
di	ka	k u	tt	in	m ei	tz	ing	w/m achende
der	kar	c oo	tt	sen	n ie	dc	ig/ich	?
		c u	x	en				haven

Discussion.

Here we have six sections for Test 1 and eleven for Test 2 - the best so far. Only the last syllable is not quite clear. The majority verdict would be "die geput mensen kra". Short of understanding what the phrase means, Dr. Raudive could hardly wish for better confirmation of his interpretation.

Conclusion.

A male German voice says "die geput mensen kra" (with the possibility of very slight variation, particularly of the final word).

+*14 KR 26.9.70 anstrengend die Menschenmassen

(hiss/music) *

Discussion.

Two people gave Dr. Raudive's exact interpretation, but at least one of these had been supplied with voice samples, which would mean that he had heard what it was.

There is only a little more ambiguity in the interpretations than for the previous voice sample. Reasonable guess: "an string/streng die Menschen machen".

Test 1.32

that explains the amentioned māsse
angesplenen dee mension master
angst schtrange die menschen master
āngsträng die menschen master
hamstring die menschen mater
umshtring die mänchen matte
tungsten die menschin maten

male
German

Test 2.14

young
male 8 German 5
almost Scots accent on 'straing'

anga	stien	di	menchen	narther
ank	stein	de	menchen	Martha
an	schtrein	de	menschen	math
an	shtring	de	menschen	marker
an	string	de	menschen	Martin
an	string	de	menschen	matter
am	string	die	menshen	machen
ham	string	die	menshen	machen
ham	string	die	mention	machen
han	strange	die	mention	massen
han	strain	die	mention	masse
hans	straing	die	mention	masse
hans unah	straing	die	mension	lasar
uns	streng	ve	mennsion	master
un	strengen(d)	the	mensen	master
um	strengend	they	mennsen	mann

Conclusion.

A (young) male German voice says "an string/streng die Menschen machen", but a little variation is possible.

Section VIII : Voices recorded by Mr. Joel Honig 'diode' method

1 H+ 20.1.72 Madam who wrecked it talk now

pada	who	write	a	book	gabe		
madam	who	write	a	book	mya		
madam	who	writes	a	book	now		
madam	who	writes	a	book	now		
madam	who	writes	a	pork	now		
madame	who	writes	a	fork	now		
madame	who	writes	a	fort	now then //Melvin		
adam	who	writes/rides	a	report/lord	album		
and	hu	ruks	ey	thorgent	account		

Test 1.34

male
American
second voice says 'check' near the end

Discussion.

(I joined the listeners as I had not yet looked at Mr. Honig's interpretations.) The voice is fairly clear - enough for the interpretations to be split into six sections - although there are differing ideas as to what Madam writes.

Conclusion.

A (male American) voice says "Madam who writes a book now".

---

2 H+ 2.2.72 This is Michael

ooo Michael
oomigl
oo the bible
little bible
ooga beuble
who bubble
from the bottle
hoovervoid it
all/who's invited

Test 1.35

male

Discussion.

The interpretations are quite similar, but what the exact sounds are is a matter of guesswork. The second word may be 'Michael', as Mr. Honig suggests, but 'bubble' or 'bible' seems more popular. There is little support for 'this is': the majority favour an 'oo' sound here.

Conclusion.

This voice is not clear enough to be identified, and Mr. Honig's interpretation is not confirmed.

3. Further Discussion.

This is not the first time such tests have been conducted: Dr. Theo Locher (President of the Swiss Association for Parapsychology) conducted one by post in 1971 with 28 voice samples and ten listeners (see Report 8, pp.41-42 and Report 13, p.59), and Prof. Dr. Hans Bender submitted five of the voice effects which he had recorded with Mr. Jürgenson to free interpretation and multiple choice (nine very similar alternatives) grading by a group of 13 listeners (see Report 18, p.80). The present tests differ from both of these in that the results have been evaluated without making any attempt to compose first a 'standard text' or 'correct interpretation' against which to compare the interpretations received. Instead, the latter have been used as a basis for judging the interpretations previously suggested by the experimenters, the aim being not so much to test the listeners' hearing as to discover what the voices actually say, and to ascertain to what extent agreement on this is possible.

The interpretations have been given in the spelling in which they were received. Phonetic writing (as used, for example, in dictionaries), which might have been less ambiguous (but not very easy to type), does not appear to have been used (apart from the occasional horizontal bar over a long vowel). It can therefore be assumed that, except for the words which are quite clearly in German (or, on rare occasions, some other foreign language), the interpretations are written as if they were normal English words. Not all of these, however, make sense, either as words or, if the words are intelligible, as phrases. Indeed, in many cases the listeners seem to have written down what they heard in preference to trying to project meaning onto the sounds.

The contexts of the voice samples used in Test 2 were given to help the listeners distinguish the sounds requiring interpretation from conversation and other sounds recorded. Occasionally, as with 'George' (I, 1), this has the disadvantage that the context suggests an interpretation, but in other cases, such as the idea of 'gute gute nacht' (I, 6) being a 'glottal stop' uttered by the experimenter, the context allows the listener to suggest a reasonable natural explanation. Hearing the 'Goniometer' voices (VII, 4 - 9) in the continuous sequence in which they were recorded helped their interpretation considerably, and allowed the passage to be identified as a radio broadcast, but the other voices in this section (1, 2, 10 - 14) occurred as isolated phrases on the original tapes. They may have been broadcast as isolated comments or announcements, or merely received as such as a result of a periodic action of the 'Goniometer' (see Report 10, p.49). Another possible explanation is that Dr. Raudive might have touched the aerial (a vertical rod mounted axially in a large metal cylinder) for a few seconds from time to time. When we visited him on 22.9.70 he did do this once or twice (and encouraged us to, but we declined). It also seems that he adjusted the recording level or the gain control on the 'Goniometer' several times during the recording made on 26.9.70.

One objection which may be raised to these tests is that no attempt was made to select people known to have good hearing - or training in listening - apart from using students (who would normally be expected to have good hearing) for the first test, and people experimenting with the voice phenomenon (who might conceivably have trained themselves to hear these sounds) for the second. Nor were any extra, known sounds included to test the hearing of each listener. (This last idea could have been incorporated fairly easily, but it would have made the analysis of the results rather complicated, and it is possible that I would have lost the confidence - and hence the cooperation - of some of those taking part.) While naturally I would take up any opportunity of conducting tests with trained listeners, I feel that it is more relevant to a study of the voice phenomenon to see what ordinary people, listening with their usual equipment, make of the sounds. After all, many such are conducting their own experiments with the voice phenomenon and listening to and interpreting the

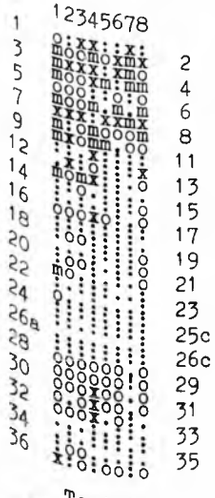
sounds they have recorded. On the basis of these interpretations (and their reading about the work of Dr. Raudive and Mr. Jürgenson) they judge the phenomenon to be paranormal, and conclude that they are in touch with unseen entities. How valid are these interpretations - and the deductions made from them?

Assuming that the sounds for which a number of listeners are agreed are correctly heard, a rough assessment of Dr. Raudive's own hearing can be made. This might enable us to judge his claim that his ear has become attuned from years of experience in listening. The reader can judge for himself how well Dr. Raudive's interpretations accord with the majority view, but the following general appraisal might be made:

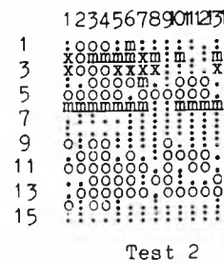
(a)	Dr. Raudive's interpretation more or less confirmed: -	6
(b)	Dr. Raudive's interpretation seems quite reasonable: -	4
(c)	Listeners not sufficiently agreed for accurate assessment: -	6
(d)	Dr. Raudive heard a voice but the listeners suggest that the effect is a mechanical sound: -	2
(e)	The listeners are agreed but Dr. Raudive's interpretation is not consistent with the majority view: -	5

(Section (e) includes the four effects of which Dr. Raudive's interpretation is known that were identified as part of a radio broadcast.)

A rough numerical calculation over twelve of the fourteen voices common to both tests (I, 2 & 6 excluded) was made to see how well each listener's interpretations accorded with the majority view for each voice, the interpretations being first scored without reference to who had made them. The final scores were very similar, except for two persons who did very badly. The mean score of the others was 77% (standard deviation 7%). The average of the four voice experimenters (see below) was 80%. Two people scored 87% and Dr. Raudive (allotted an average mark for voice V, which he has not heard) 88%. These results suggest that Dr. Raudive's hearing, while at least as good as that of those taking part in these tests, is not significantly better. On the other hand, his extraordinary ability to spot faint and fleeting sounds on the original tapes should not be overlooked. Only two out of eight listeners heard 'minus' (I, 7) and eleven out of 24 'ich habe' (I, 3), yet these are louder and more distinct than the average microphone voice which he detects.



Test 1



Test 2

Another interesting point concerns the meaning/nonsense ratio of each person's interpretations. Dr. Raudive's interpretations, when translated from the right languages, nearly always make some sort of sense - what of the other experimenters? In order to make calculations, I examined all the original interpretations and scored each as follows: whole phrase makes sense - 2 (:) one or more words individually intelligible - 1 (.) meaningless representation of the sounds heard - o listener attributed sound to non-vocal origin - m no interpretation attempted - x. The data is given in tabular form on the left to enable the reader to make his own calculations if he wishes. (In Test 1, Mr. Cornell is No.4, the others students; Test 2 listeners are in the order given on p.87.)

I then added up each person's score, divided by the number of interpretations attempted (i.e. eliminating x and

m) and multiplied the result by 100. The maximum score possible (all phrases meaningful) is therefore 200.

It was soon evident that the 'meaning quotient' varied more from voice to voice than from listener to listener. This occurred for several reasons: some voices were very clear and most of the listeners were finding a meaningful agreed interpretation; others, although well agreed, scored very low because they were in a language understood by only one or two listeners, and a few were faint - or thought to be mechanical sounds - and attempted by a small minority. Eliminating all these left 20 voices in Test 1 (Nos. 1, 3-5, 8, 9, 12-16, 18-21, 30, 33-36) and 9 in Test 2 (1, 3-5, 7-9, 12, 15), of which 8 (all except Test 2.15) were common to both tests. The meaning quotients obtained were as follows (the figure for the Mean is the average of the quotients; the result of the more accurate process of dividing the total score by the total number of interpretations is given after it in brackets):

(a)	Over all voices	(35) Test 1	64 - 155	Mean 113 (112)	std. devn. 30
		(15) Test 2	23 - 146	Mean 93 (93)	std. devn. 34
(b)	Over all voices common to both tests	(14) Test 1	8 - 160	Mean 76 (71)	std. devn. 54
		(14) Test 2	17 - 142	Mean 86 (91)	std. devn. 35
(c)	Over selected voices	(20) Test 1	47 - 159	Mean 107 (106)	std. devn. 45
		(9) Test 2	33 - 171	Mean 118 (115)	std. devn. 38
(d)	Over selected voices common to both tests	(8) Test 1	17 - 200	Mean 108 (102)	std. devn. 71
		(8) Test 2	25 - 167	Mean 103 (106)	std. devn. 40
		(8) Test 2*	86 - 129	Mean 107 (107)	std. devn. 23

There does not seem to be any significant difference between the two tests. What about the individual listeners? Four listeners in Test 2 (Test 2* = 2, 5, 8, 9) are known to have made recordings of various kinds and to have obtained results. Over the eight selected voices common to both tests, their quotients ranged from 86 to 129, with a mean of 107. Seven of the other twenty listeners scored lower than 86, and nine (headed by Mr. Cornell with 200) scored higher. There is thus no evidence that persons experimenting with voice recordings find any more meaning in the sounds recorded than the average listener.

I also wondered how the meaning content varied with the degree of agreement between the listeners, and thus with the clarity of the voice phrases. Do people tend to guess in terms of words or phonemes? I therefore rated the selected voices on a rough five-point scale according to the measure of agreement shown in each test (5 for very good to 1 for very poor):

agreement:	5	4	3	2	1	
Test 1	149 (148)	130 (129)	98 (100)	59 (59)	75 (77)	
20 =	3 +	5 +	5 +	4 +	3	voices
Test 2	153 (154)	124 (124)	73 (68)			
9 =	2 +	4 +	3			voices
Test 2*	175 (175)	119 (119)	75 (70)			

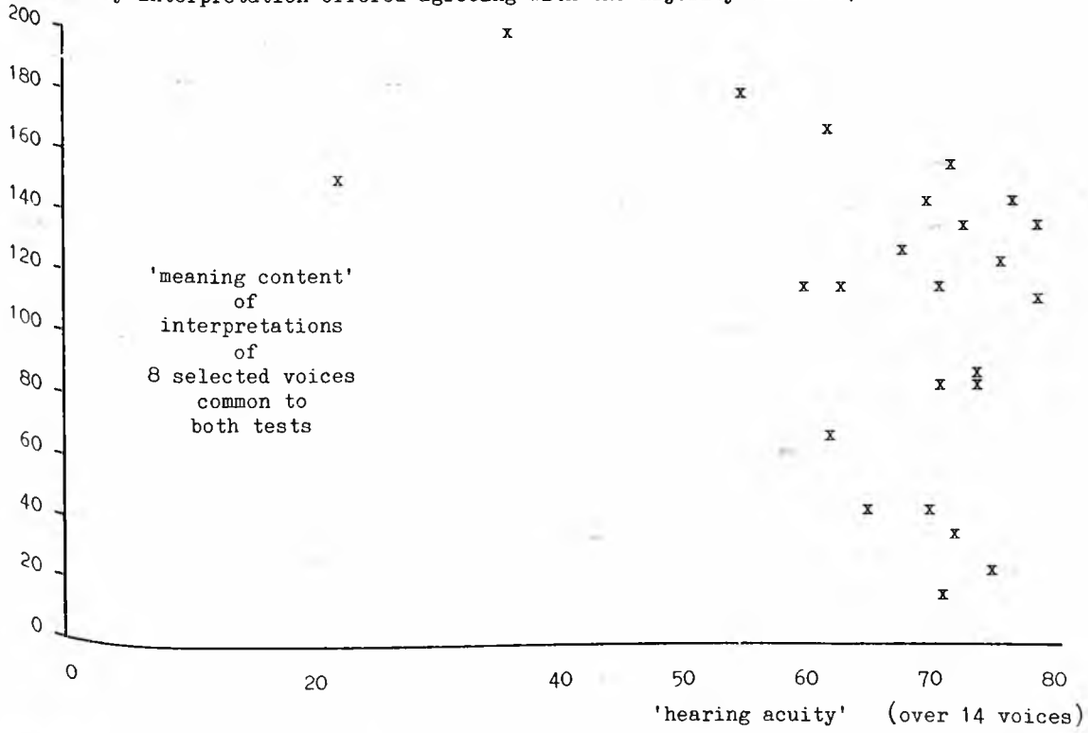
A steady downward trend is shown in both tests; meaningful words correlating with good agreement, rather than with poor agreement as might have been expected if guesswork or 'projection' were operating. There seems to be a slight reversal at the lower end of Test 1, but the sample does not include sufficient voices to attach any significance to this. However, although voice phrases for which the listeners were well agreed tended to be interpreted with a greater proportion of meaningful words, the interpretations themselves would seem to be slightly more accurate when given in terms of phonemes rather than words. The table below shows how the 'accuracy' of the

individual interpretations (i.e. how well each agreed with the majority verdict) varied with their meaning content, scored over the 8 selected voices common to both tests (all listeners):

'meaning'	Test 1	Test 2	overall
2	76%	80½%	79%
1	80½%	78½%	79%
0	83%	87%	86%

agreement with majority

The diagram below shows how the meaning quotients of the listeners varied with the assessment previously made of their hearing acuity. There would seem to be no correlation for persons with normal hearing, but a very definite trend for those with slightly defective hearing to score high on the meaning scale - presumably because they have acquired the habit of using a certain amount of guesswork in their normal day-to-day hearing. (The maximum score on the hearing scale is 91, which corresponds with every interpretation offered agreeing with the majority verdict.)



It should be emphasized that all these results apply to the voices used in these tests, which are nearly all of extremely good audibility (A to A++ on Dr. Raudive's scale). Results for A⁻ and B voices could well be rather different, and it would be interesting to conduct further tests with such voices to find out. Such tests should include voice effects which are similar to mechanical (or natural) sounds, as this seems to represent the only area where the voice experimenters may score differently: on the two effects agreed to be mechanical sounds (1, 2 & 6) two of them accounted for 50% of the total 'meaning' points.

Although listening tests cannot show directly whether or not any given effect is of paranormal origin, they can help towards an understanding of the voice phenomenon. Second opinions as to whether a certain effect is a mechanical sound or an unambiguous voice, or whether another could be an uncontrolled utterance, are always useful. The interpretations certainly differ considerably, but most could still be matched to the voices without difficulty (in my - post hoc - estimate, 83% with confidence and a further 7% by reasonable guesswork), and the agreement about the sex (120 statements out of 121 do not conflict) and nationality (48 out of 53) of the speaker is also very good.

The voice effects included in the tests could be divided into groups :

(a) Sections I & III : microphone voices, mostly from expts. at Bad Krozingen.

These were the most interesting of the effects which had been recorded, and the tentative conclusions about them could be summarized thus :

I, 1	'George'	uncontrolled utterance
2	'tactful'	mechanical sound
3	'ich habe'	unknown voice
4	'trotsig'	transient speech
5	'tserek'	uncontrolled utterance
6	'gute gute nacht'	mechanical or glottal stop
7	'minus'	too faint to evaluate
8	'Lenin')	(could still be voices
9	'Hans')	(coming through s/p box
III, 1	'I got it'	unconscious utterance
2	'Cutten'	unconscious utterance

These results illustrate some of the problems of evaluating microphone recordings. They show how essential it is to have a microphone and separate tape (or track) for each person present, so that a check may be made after the experiment for uncontrolled utterances (and glottal stops). This, unfortunately, had not been possible during the experimental sessions owing to the unexpected failure of the microphones on the cassette recorders we had brought (see Report 14, p.62). If recordings are to be made with a microphone in a sound-insulating box, a second microphone must always be used to monitor the sounds in the room. (The recording in question was made on the last day, after the stereo recorder had been taken back to our hotel.) 'ich habe' is a good example of Dr. Raudive's microphone voices and it is disappointing that so few listeners were able to spot it, presumably because, coming just before I speak, it is not easy to hear. Most probably it is an uncontrolled utterance, but it might be a voice from outside (or, conceivably, radio pick-up) or perhaps it is another 'glottal stop'.

(b) Sections II & IV : whispered voices with mediums.

These are clear enough to be understood, but the possibility that they were uttered - consciously or unconsciously - by the medium cannot be ruled out. For the voices in Section II, the medium held the microphone in his hand, and the voice in Section IV, which was recorded in stereo, came from the medium rather than the sitter (see Report 9, p.46). But in neither case did the sitter hear the whisper at the time.

(c) Section V : 'poltergeist voice'.

This remains very puzzling. Further recordings were made while the conversation in the room was also recorded, but, apart from a few faint whispers which could have come from anywhere, no more effects occurred. It would seem essential to take full precautions from the outset when investigating such cases.

(d) Sections VI, VII 1, 2, 3, 12 & VIII 2.

These are 'A' voices, but the agreement between the listeners is not particularly good : there is quite a wide range of possible interpretations. It is not possible sufficiently to establish what is said to claim a paranormal origin for these effects, which were all recorded by radio methods.

(e) Section VII, 4-9 .

These are of similar clarity to (d) but with the difference that they were understood. Far from establishing a paranormal origin, this showed conclusively that they were fragments of a radio broadcast. Such a result renders the 'Goniometer' and other recordings made with it highly suspect.

(f) Section VII, 10-14 & Section VIII 1 .

These include some of the clearest voices that Dr. Raudive has ever recorded (A++ quality). German words are being interpreted by English listeners, most of whom are unfamiliar with the language and yet are agreeing almost phoneme for phoneme. If all Dr. Raudive's voices were as clear as this, and at the same time gave names, made relevant statements and spoke in polyglot sentences, his case would be very strong. But these examples are not polyglot, and although they may have some relevance to the questions Dr. Raudive asked at the beginning of the recording, they do not seem to be inconsistent with having originated from radio transmissions. Mr. Stark, whose native language is Dutch, commented that he could hear on the tape no voices in Flemish, Dutch or Afrikaans, so they are very likely to be German, as the listeners suggest, and sufficient small variation is possible for a version that makes sense in German to be synthesized. Readers may be reminded of my 'Uncertainty Principle' (suggested in Report 3, p.19), that the evidentiality of the voices seems to be inversely correlated with their audibility.

4. Summary.

Tests comprising 36 and 15 voice samples, generally of good audibility, were completed independently by 8 and 16 listeners respectively. For each sample, the interpretations were sorted into a reasonable continuum, and comments made as to the degree of agreement between them and the deductions which might be made from them concerning the probable origin of the voice effect.

Calculations based on the 'meaning/nonsense ratio' of the interpretations did not detect any difference between persons experimenting with the voice phenomenon and the other listeners, nor any tendency of either group to ascribe more meaning to the sounds which were heard less well.

Apart from identifying certain examples as fragments of a radio broadcast, the test does not draw specific conclusions as to the paranormality or otherwise of the effects included, but it does illustrate a number of problems involved in study of the voice phenomenon and makes clear what stringent precautions are necessary in experimental work.

2nd June 1973

If these tests had been done on a random sample of Dr. Raudive's recordings, perhaps the result that a group of listeners could not always agree on what they heard would not have been very significant. But this was far from being the case : the voices selected included some of the best and most interesting from my own experiments as well as the clearest and most distinct of Dr. Raudive's samples ...

TECHNICAL

REPORT 21

Technical Comments and Experiments

1. Mr. Norman Gaythorpe.

Mr. Gaythorpe reviewed *Breakthrough* in *Light* (Summer 1971, pp.69-73). Explaining his complete disagreement with the idea that alternative 'natural' explanations for the voice effects could be ruled out, he disclosed that he had been professionally concerned with the early stages of the development of magnetic recording instruments. Their experiments had been 'bedevilled from time to time by what seemed to be random weak recordings of voices, messages and music, which could not be accounted for and which - until the reason for their presence was found - were by some thought to be discarnate in origin.' Investigation showed that 'a dry-soldered joint in the input circuit of the high gain amplifier employed was acting as an efficient detector, not only of radio-frequency signals, but also of induced nearby telephone circuit communications.' He described how a simple aerial arrangement could be connected to the recorder in place of the microphone, to produce a babble of voices which at times 'could be resolved into the telephone conversations of the neighbours.'

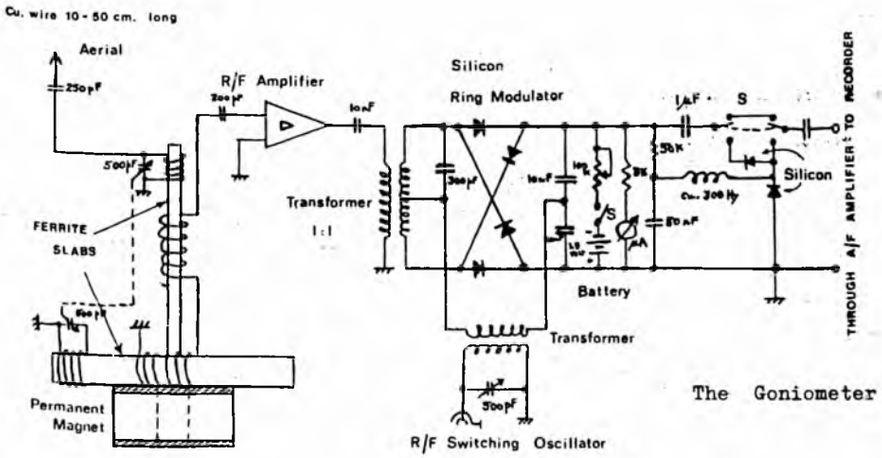
I wrote to Mr. Gaythorpe on 8th May 1972, "... Firstly, do you still have any copies of the sort of voices picked up by tape recorders in the early years and mistakenly ascribed to the dead? This would be very interesting for comparison purposes. Secondly, is there any simpler way of picking up random local telephone conversations? My house is too small for 50' wires splayed out at 40°! Thirdly, how would you propose to eliminate all these spurious effects: do you think electrostatic/electromagnetic screening of the tape recorder, plus r/f filters on the microphone leads would be sufficient?"

Mr. Gaythorpe replied to my letter in a helpful manner and invited me to visit him. He no longer had copies of the early voice recordings, but he was able to answer my other queries. Shorter wires would suffice, but random telephone conversations were not so easily detected now that the Post Office had discontinued use of 'phantom' circuits. Mr. Gaythorpe thought that proper screening of a tape recorder from all broadcast radiation would be very expensive.

Mr. Gaythorpe had examined the circuit diagram of the 'Psychofon' when studying my reports, and commented that none of the transistors was provided with a base bias. This simple precaution against 'thermal runaway' was standard practice in transistor circuitry. Commenting on the 'Goniometer' circuit, which I was able to show him, he agreed with Mr. de Rivaz (Report 10, p.49) that it would function as a radio receiver whose tuning might be expected to drift erratically. He added that frequency inversion and detection of single-side-band transmissions and radio-telephony were also possible. A major feature of the 'Goniometer' circuit is a ring-modulator, and Mr. Gaythorpe pointed out that an analogous process of ring-modulation occurring in the ionosphere gave rise to what is known as the 'Luxembourg Effect'.

Later, he added: "The use of a permanent magnet in this device is not understood. The characteristics of ferrite rods and slabs under the influence of a magnetic field are greatly enhanced from those required for RF tuned circuits, and generally, if you place a small strong magnet near the ferrite aerial in, say, a transistor set, the

signals will disappear, that is to say, the resonant circuits and tuning are greatly disturbed. I have never come across the use of magnetized tuned circuits in any application other than the original Marconi 'Magnetic Detector' (circa 1904, I think) and then there was no magnet as such, but a moving band of soft iron wire which was magnetized by the signal from the 'Multiple Tuner'. This has long been obsolete. As for the rest of the circuit, it is a sort of ring modulator with trimmings, and I expect it develops a periodic quenching effect which will take a few words out of a broadcast transmission before paralysis sets in, the periodicity of which depends on the circuit parameters."



The Goniometer

designed by Ing. Theodor Rudolph Unterbalzheim 1970

2. Mr. A. P. Hale.

Belling & Lee, Ltd., Enfield, are one of five companies in the West who manufacture screened rooms and associated equipment. Mr. Hale, as Technical Manager, R.F.I. Suppression Equipment Division, is in charge of all this work and is thus an acknowledged expert on radio-frequency screening.

When I met Mr. Hale on 24th March 1971, he was strongly inclined to the opinion that Dr. Raudive's voices originated from normal radio signals, perhaps distorted in transmission by the 'Luxembourg effect'. He pointed out that a tape recorder, even with no input device connected, was not immune to reception of radio signals.

However, he was quite willing to test this hypothesis by setting up apparatus for Dr. Raudive to use in his company's screened room. As described in Report 6 (p32), we had a signal generator/aerial/sensitive radio receiver working at about 1.4 MHz, and we also used the 'diode' and microphone methods. The experiment, rather informal and certainly no more than a pilot test, was conducted on 26th March 1971. Mr. Lovelock was present in the screened room for the first recording, but then had to leave. Mr. Hale joined us after we had finished, and enquired politely whether we had succeeded in recording any voices? Dr. Raudive played him 'Kur Raudi', the loudest and best effect, and it is possible that we did not make it entirely clear that this effect had been recorded with the microphone. For when I wrote to Mr. Hale in September 1973 enquiring about his current opinion concerning the voices, he replied as follows,

"I can certainly confirm that my opinion regarding the experimental results that yourself and Dr. Raudive achieved cannot be explained by me in normal physical terms, and so far as I am concerned I would feel that a vast amount of additional experimentation under highly controlled scientific conditions should be carried out if an attempt is to be honestly made to either verify the authenticity or disprove the existence of what I think many of us regard as being supernormal phenomena. You will of course understand that the comments I am making are my own personal views and do not of course reflect the opinions of Belling & Lee or of my colleagues.

"I myself have not done any experimental work, basically I suppose due to lack of time though it is one of the things that I would, given the facilities, very much like to do. However as I mentioned above to my mind any serious experimentation would need to be quite extended and would need to be carried out in a very rigorous scientific manner, which would inevitably mean that such a series of experiments would be costly.

"So far as any explanation for the effects I think I would at this moment completely discount the 'Luxembourg effect' because I feel that we have something which is not associated with normal radio transmission but so far as I can see the 'voices' might be due to a modulation of ambient noise and if this were the case it could certainly overcome one prime difficulty in visualising the existence of communications of this nature in that if ambient noise were modulated, and the modulation power extracted from the ambient noise (this in effect means a small reduction in the noise temperature) the laws of the conservation of energy would not be contravened, as I think one must assume that the 'source' cannot contribute energy of itself.

"The above comments are of course only speculation and I would repeat again that a large amount of experimental work must be done if any sense is to be made of this problem and I feel that to date, the work that has been done has not had an adequate scientific background or been conducted in a satisfactory manner from the scientific point of view."

As I was sure that Mr. Hale would not wish to believe in the reality of alleged paranormal occurrences unless the evidence was based on sound scientific work, I included the following paragraph in my letter thanking him very much for his full and helpful reply:-

"I am wondering whether it is possible that you may have unintentionally been misled about the results which Dr. Raudive and I obtained in your screened room. I remember our brief discussion at the end of the session, and we were certainly very excited about the results. But as I took the tape away with me, making only a copy for myself before taking the original to Dr. Raudive, very few people have had a chance to hear it. Dr. Raudive claimed to be able to hear voices on all sections, but listening to it carefully myself I have been able to hear possible voice extras only on the parts which we recorded from the microphone. I am sure you will agree that, although screened to 100 dB for radio, the room is not soundproof, and on the tape you can also hear a telephone ring. (One 'voice' occurs at a suitable interval after this for it to be a shout to someone to come to the phone.) So when I read that you still felt unable to explain our results in normal physical terms it seemed odd that you should have overlooked this fairly straightforward 'natural' explanation unless you had been misinformed about what results were in fact achieved (e.g. you might have been under the impression that we had got clear voices on the radio equipment you had set up for us, which I agree would have been very hard to explain). You would have hardly been disposed to accept Dr. Raudive's assurance that the messages were in Latvian (not spoken in Enfield!), for they were too short and unclear for this language to be conclusively identified. Of course, we hoped that Dr. Raudive would regard this experiment as a pilot test, and come to England again

for further experiments, during which we could take account of outside sounds by making recordings on additional equipment. But, alas, he never did."

3. Mr. George Hood.

Mr. Hood lives in Harlow, Essex, and I was introduced to him by a mutual friend, Mr. Bill Kingsley. We visited him on 5th March, 1973. Mr. Hood is an amateur radio enthusiast and possesses an impressive assembly of radio receiving and tape recording equipment. He had read *Breakthrough* three times and subsequently sent Mr. Kingsley a 30-min. tape of criticisms and alternative explanations for the voice effects.

Mr. Hood told me that he had made about 150 experimental recordings, using high-quality directional microphones or a radio tuned to an empty band (VHF or UHF). As he had not recorded any voice effects in these experiments he had concluded that if the phenomenon was a valid one then a medium was probably necessary for successful results to be obtained. Experiments with mediumistically gifted persons were being arranged with the help of Mr. Kingsley, and I was invited to take part in these.

Mr. Hood explained that radio-telephony was a further hazard which might trouble would-be voice experimenters. Although nominally restricted to certain wavebands, it could occasionally be picked up at almost any wavelength, and not only could any of a number of languages be used, but there was no guarantee of grammatical precision! Sometimes there were one-way conversations, e.g. ship-to-shore, and at other times, two-way. He demonstrated how single-side-band transmissions could be picked up in a distorted form on normal equipment.

A few days later Mr. Hood sent me an interesting little tape containing samples of voices and other sounds which could be picked up by a radio, all of which had a natural origin, as he carefully explained. They had been recorded on an amateur-band receiver with considerable band-spread on all wavelengths, so that it had been possible to isolate the various off-beat signals and present them in a reasonably clear form. Otherwise, Mr. Hood said, they could be rather difficult to identify, particularly as they were usually cluttered up with lots of other signals. They included:- signals from radio beacons, a medley of radio operators using the side-band method (produced by cutting out the aerial pre-selector amplifier), examples of frequent fading leading to poor reception, radio-telephonic links in which words are sometimes only partially audible and perhaps only one side of the conversation can be heard at a time, distorted voices on side-band and ship-to-shore communications. Received in a distorted form, or mixed with other signals, some of these seem very likely to be potential sources of voice effects.

4. Mr. John de Rivaz.

Mr. de Rivaz is Managing Director of a small (electronics research) consultancy founded by the late Mr. A.H. Reeves. He is a little younger than me, and I first met him - and Mr. Reeves - when we were all working at Standard Telecommunication Laboratories, Ltd., in Harlow. Mr. Reeves was a well-known scientist, noted, among other things, for his invention in the 1930s of P.C.M. (Pulse Code Modulation), which is now widely used in telecommunications. Mr. Reeves was interested for many years in psychical research, especially P.K., and conducted some original and unusual (but little-known) experiments. He died of cancer in October 1971. Both Mr. Reeves and Mr. de Rivaz have made valuable suggestions about the voice phenomenon from time to time, and Mr. de Rivaz has helped me considerably with technical advice and facilities.

On 18th April, 1973, we assembled two of the three 'diode' circuits given in *Breakthrough*. It has often been remarked that the 'diode' circuit represents a crude broad-band detector similar to a 'crystal set', but it was not until I was asked, a little while ago, to help assemble a crystal set for a young schoolboy that I realized how close the resemblance was. Apart from the size of the capacitor, the

use of a 'cat's whisker' in place of a point-contact diode and the length of the aerial, the circuit is exactly the same!

The circuits under test were connected to the microphone input of a tape recorder, which was set to maximum sensitivity and used in the 'public address' mode (monitoring the output from the amplifier through the loudspeaker). A radio-frequency signal generator, modulated by an audio-frequency tone, was slowly adjusted from 150 KHz to 340 MHz. Using circuit (i) (see diagram, below), the tone could be heard loudest at 36 MHz, 81 MHz, c. 140 MHz and 160 MHz; circuit (ii) gave peaks at 37 MHz and 85 MHz. Using circuit (i) and the signal generator output connected directly to the aerial, to give the effective arrangement shown below (iii), voices were heard at 25 MHz. They were not quite clear enough for more than the occasional word to be made out, but they were eventually found to correlate exactly with the (ITV) picture displayed on a television receiver.

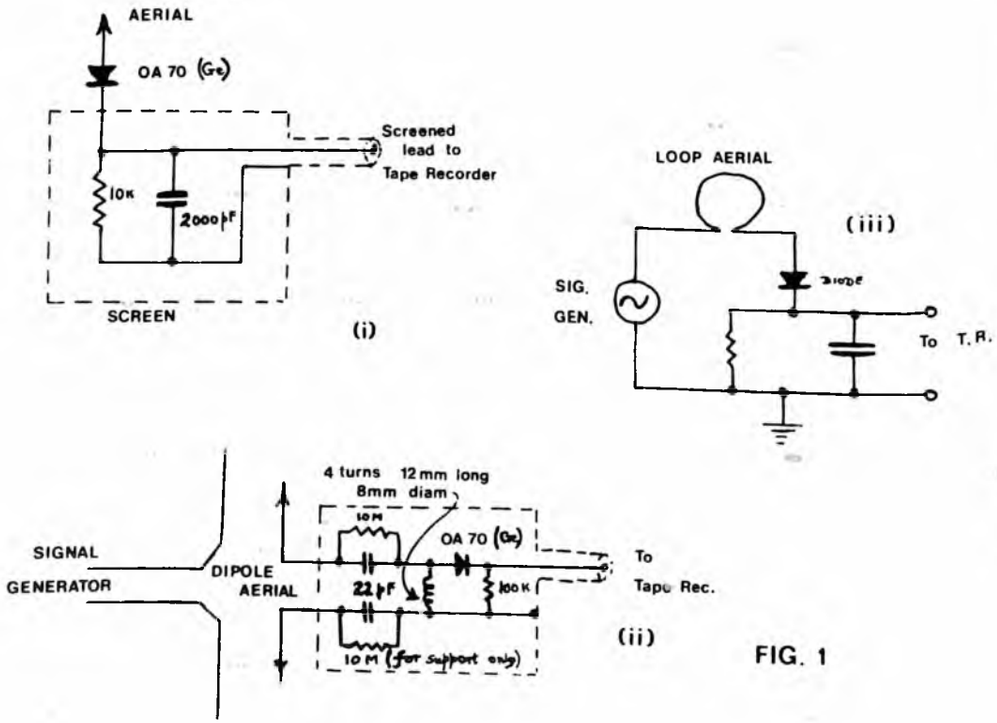


FIG. 1

For the first series of tests, the signal generator can be regarded as a radio transmitter of variable frequency. The peaks in the output from the 'diode' circuit (where the tone from the signal generator is heard loudest) correspond to the broadcast wavelengths to which the circuit is most sensitive. In the second test, the signal generator is used to increase the sensitivity of the receiving circuit to normal broadcast transmissions, the frequency augmented being that to which the signal generator is set. Thus it was discovered that the particular circuit tested could receive the sound from a (UHF) television transmission.

Mr. de Rivaz pointed out that the broadcast wavelength to which any particular 'diode' circuit was most sensitive depended very critically on the exact values of the components used, and even on the way these components were arranged and wired up. Results, therefore, could not reasonably be expected to be reproducible from one circuit to another (unless precise details of the wiring layout and size and make of the components were known), and to discover which wavelengths were likely to affect Dr. Raudive's apparatus one would have to test that particular apparatus. However, the component values did not matter very much if one merely wished to see whether or not the circuits and arrangements described in *Breakthrough* were liable to detect broadcast signals. The short aerial suggested is effective - although it could hardly be called efficient - by virtue of two processes: (a) reception of a harmonic of the broadcast signal if the transmitter is close and the signal strong, and (b) distortion of the signal through the diode and consequent generation of a harmonic. Germanium diodes are more sensitive than silicon diodes, because they become conducting at a lower voltage (see Fig. 2 on right).

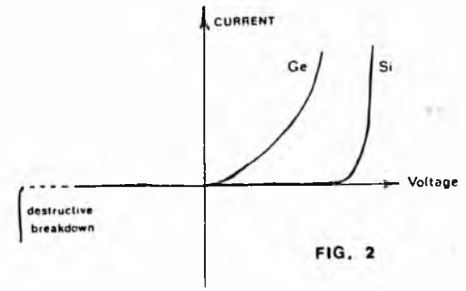


FIG. 2

Many of Dr. Raudive's voices are recorded from devices which are, basically, radio receivers, and in order to help the reader to understand some of the problems involved - in particular, how various forms of interference can lead to the production of voice effects which 'should not be there', Mr. de Rivaz has very kindly compiled the following very simplified account of how the superheterodyne receiver works. (This is by far the most common type of receiver in use today.)

It is not possible to broadcast an audio-frequency signal directly, as the frequencies involved are too low, so a 'carrier' wave of suitable 'radio-frequency' is used to take the signal from the transmitter to each receiver. It is because the carrier waves have different frequencies, to which radio receivers can be selectively tuned, that it is possible to have a number of stations all broadcasting at once without producing a hopeless Babel of voices. The carrier is 'modulated' by the signal, and this can be done in a number of different ways, the two in most common use being Amplitude Modulation (A.M.) and Frequency Modulation (F.M.). A.M. is used for the lower frequencies (short, medium and long waves) and F.M. for VHF transmissions and UHF. In A.M. the amplitude of the carrier wave is governed by the instantaneous strength of the signal to be broadcast, as is seen in Fig. 3 (right). For F.M. the frequency is altered by the signal, but it is not very easy to illustrate this on a simple diagram.

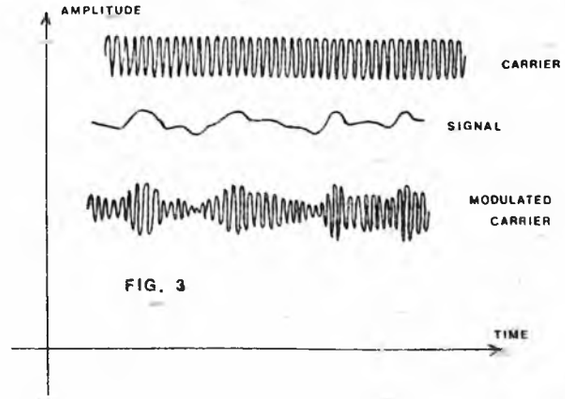


FIG. 3

A radio transmission consists of a number of electromagnetic waves of different amplitude (strength) and frequency. In the case of ordinary radio broadcasts, these waves comprise the carrier and two sets of 'sidebands' (see diagram), which contain the broadcast information. For speech or music, the information contains frequencies from 20 Hz to 20 KHz. However, for reasons of economy, not all these frequencies are actually broadcast. On medium, long and short waves the upper limit is about 4 KHz, while VHF and television sound transmissions go up to 15 KHz. A television picture requires a much larger range of frequencies, the highest broadcast being 5.5 MHz.

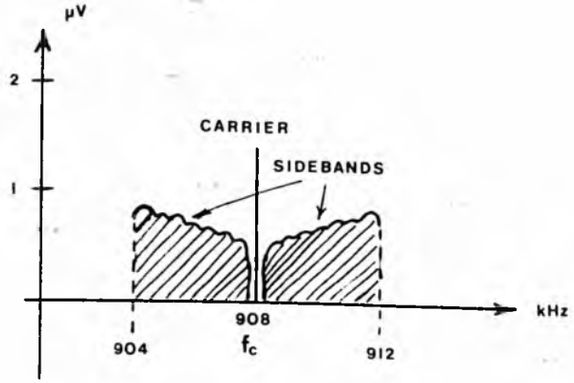


FIG. 4

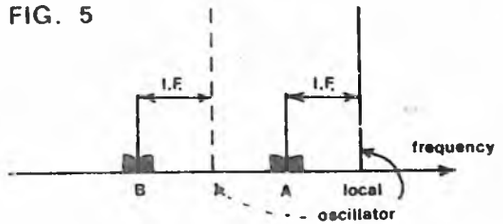
In Fig. 4 the carrier and two sidebands of Radio 4 in the medium waveband can be seen on a diagram which shows the amplitude of waves of differing frequency. The carrier is on 908 KHz, and the sidebands extend as shown. The highest frequency broadcast is the sum of the carrier frequency and the highest frequency of the signal, and the lowest corresponds to their difference. Thus the bands extend from 908 - 4 = 904 KHz to 908 + 4 = 912 KHz. The sidebands are, in fact, mirror images of each other, so it would be possible to transmit the same information on only one of them, and without the carrier either, and as this would take up fewer frequencies it would be technically advantageous to do it. The problem, however, is that if this were done all the domestic receivers in the country would be rendered unusable! Single-side-band transmissions, as these are called, need a special receiver, and their use is confined to military and professional equipment, although amateurs do experiment with them too. Received on an ordinary radio set, the speech originally transmitted is distorted and almost unintelligible.

So a normal radio receiver has to be sensitive not just to the carrier frequency but to a sufficiently wide range of frequencies to receive both side-bands. However, if this 'bandwidth' extends further, adjacent sidebands (from other signals) can also be received, leading to distortion (and general aggravation on the part of the listener). Tuned radio-frequency receivers pick up a fairly wide band, the width of which depends on the frequency to which they are tuned. In the days when stations were few and far between this did not matter very much, as the chance of finding two sidebands close together was very small. But the problem increased as more and more stations came on the air, and the necessity of sorting them out more efficiently led to the development of the superheterodyne ('superhet') receiver.

In the superhet receiver, the problem caused by the wide and frequency-dependent bandwidth of the simple tuned radio-frequency receiver is overcome by use of a two-stage tuning process.

A 'local oscillator' in the radio receiver is used to produce a radio-frequency which can be varied for tuning to different stations. Tuning is accomplished in conjunction with a circuit called a 'mixer'. If two or more frequencies are fed into such a circuit, the output from this circuit will consist of these frequencies plus their sums and differences, and a simple filter can select just the differences. In a superhet receiver, the local oscillator output is mixed with the incoming signal and the resulting difference frequency taken to an amplifier. This amplifier is designed to be sensitive only to one narrow band of frequencies, and the centre of this band is called the 'Intermediate Frequency' (I.F.). (On some sets the width of the band can be varied. A wider band will allow more (i.e. higher) frequencies of the signal (up to the limit broadcast) to be received; a narrower band will reduce the risk of receiving unwanted sidebands from other signals.) For the receiver to be tuned to a given station, the local oscillator frequency must differ from the frequency of the station by an amount equal to the intermediate frequency, for when this is the case the difference frequency produced by the mixer circuit will be the intermediate frequency, and this will be accepted by the amplifier. (See Fig.5)

FIG. 5



Having seen how the desired station can be tuned, we can now have a look at some of the ways in which signals from undesired stations are received; in other words, what gives rise to the various sorts of 'interference'.

It can be seen from Fig. 5 that when the radio is tuned to station B, station A happens to be at approximately the same frequency difference above the local oscillator frequency as station B is below it. As the amplifier is sensitive to this particular difference frequency, this could lead to a distorted version of station A being heard in addition to station B. The I.F. is usually about 500 KHz, so the frequencies of stations A and B would have to differ by twice this amount, i.e. 1 MHz. The problem is overcome by a certain amount of tuned radio-frequency filtering in the R.F. amplifier, but if the interfering station is very strong it may still be heard on poor-quality receivers. This is called 'image reception'. On a good receiver, the 'image rejection' factor is often specified; a figure of 80 - 90 dB is usual.

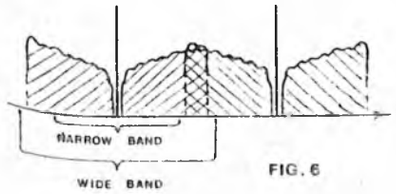


FIG. 6

A more common form of interference occurs when two stations are too close together, serious problems being created when the difference in carrier frequencies is less than 8 KHz. As stated above, the band-width of the receiver represents a compromise between the better quality obtainable with the wide band's greater range of frequencies from the original signal and the narrow band's reduced chance of receiving a second, interfering station. (See Fig.6).

Another form of interference occurs when signals from two stations combine in the mixer in the same way as the local oscillator and the desired signal, to produce a difference frequency close to the I.F. A distorted combination of the signals will be heard in addition to the station to which the radio is tuned. Weather conditions may make one of these stations available with sufficient signal strength only intermittently, thus giving rise to sporadic bursts of interference. Indeed, this can happen with any form of radio interference, and the effects are sometimes used

deliberately by meteorologists to study the weather. Meteor showers have this effect at VHF, and it can be used to give an accurate count of meteor showers. (A receiver is tuned to a distant station, and a counter measures sudden increases in strength occurring when the signal is reflected from the meteors. A Polish station transmitting at about 70 MHz has been used for this purpose.)

A further cause of interference in a superhet is derived from harmonics of the local oscillator. These are spurious (i.e. unwanted) frequencies occurring at whole number multiples of the local oscillator frequency. They can beat (=mix) with strong stations (or those momentarily strengthened by weather or astronomical conditions) to produce signals within the I.F. band.

What happens when the radio is tuned between stations, as is commonly done by Dr. Raudive? It has already been seen that a station does not consist solely of a carrier at one exact, specific frequency, but that the information is carried by sidebands which extend in both directions along the frequency scale. Moreover, where stations are crowded together, as they are, for example, on the medium band, there is likely to be little space between sidebands of adjacent stations. So when the receiver, with its own finite band-width, is 'tuned' between stations, the chances are that two (different) sidebands will be received, but no carrier, and this will result in reception of a weak, distorted, jumbled combination of the signals from both stations. It was noted above that a single-side-band transmission received on an ordinary receiver would be distorted and barely intelligible, so the reader can imagine the result of two such side-bands being received simultaneously. Also, in the absence of a strong tuned signal, all the forms of interference mentioned above will be received with relatively greater intensity. Most sets have what is called an 'automatic gain control', which turns down the sensitivity when the receiver is tuned to a strong station (and turns it up when it is not), thus tending to increase the between-station noise and interference still further.

Another method used by Dr. Raudive is the 'autotransmission' method (see *Breakthrough*, p.340 and Report 8, p.42). In this method a signal generator is connected directly to the aerial socket of the radio. The (radio-frequency) output from the signal generator will beat with other incoming signals in the same way as signals from two outside stations might combine (discussed above). If the difference frequency corresponds to the I.F., the station concerned will be heard. When the radio is tuned to the same frequency as the signal generator, the very strong signal from the latter will affect the automatic gain control and reduce the sensitivity of the receiver to a minimum, so if the station broadcasting at this frequency is on the weak side, it may not be heard at all, and whatever its strength it will sound fainter when the signal generator is switched on. This might lead the listener not familiar with what is happening to suppose that all outside stations are being suppressed. But this is not so at all, and as soon as the radio is tuned to another frequency the possibility arises of the generated frequency beating with suitable stations, as discussed above, resulting in the reception of a station to which the radio would not normally be tuned.

Finally, it might be pointed out that a simple diode was used in early superhets as a mixer, and performs quite well in this function (although normally a good-quality receiver uses a ring modulator). It is possible for a diode wired to a pair of headphones or an amplifier to 'mix' frequencies applied to it from an aerial into all sorts of combinations, and provided the 'I.F.' so produced falls within the audible band it will be heard - possibly as speech, but with the fundamental tones altered (for a technical reason too complex to be explained here). Usually there are not sufficiently many strong signals available, but it would be easy to provide at least one by means of a simple oscillator. Such an oscillator is part of a tape recorder, and is used to erase the previous signal from the tape and to ensure that the signal being recorded is done so with optimum fidelity.

It is not easy to describe something as complex as a superhet receiver in just a few words to readers who may know nothing about electronics or telecommunications. Of necessity there have been several gross oversimplifications, but any reader interested in furthering his knowledge of the subject is referred to *Telecommunications* by W. Fraser (Macdonald 1963). This book is written in valve rather than transistor technology, but contains all the information necessary for a thorough understanding of the basic principles. For practical circuitry a specialist IPC magazine such as *Wireless World* or *Practical Wireless* would probably be more up-to-date than a textbook.

5. PYE Experiments at Gerrards Cross 24.3.71 : Further Details.

Some experimental details are given in Report 18, pp.80-81. On 8th February 1973, I visited Mr. Ray Prickett at PYE Records Ltd., and he very kindly lent me the tape in question.

Listening to it, I found that it comprised a short section where a radio was apparently being used (with snatches of programmes as it was tuned through the various stations), followed by a little conversation (recorded presumably for setting up the microphone). Then came a microphone recording of 4 mins. 35 secs.' duration, an announcement that the 'diode' method was to be used and a 'diode' recording of 5 mins. 10 secs. The rest of the tape was blank. The quality of the microphone recording was excellent, as would have been expected from the professional equipment used.

As this experiment has been used for propaganda for *Breakthrough* and the validity of the voice phenomenon, I expected to hear a number of interesting voice effects on it. Dr. Raudive is said to have identified some 200 voice phrases. (See H. V. Bearman, "Breakthrough", *Light*, Winter 1971, pp.160-6 for an informal discussion.)

I listened to the microphone recording several times on 8th February, but I was quite unable to hear any voices at all - or even any sounds which might in my view have been mistaken for voices! There were a number of mechanical noises (some quite loud), a fair amount of what appeared to be wheezy breathing and the occasional softly-spoken word (speaker identifiable) - but no more. The 'diode' recording proved to be mainly hiss with sporadic vague suggestions of possible radio fragments, but these were too faint to be of any note and there were no voices. I listened to this section carefully three times.

From the published accounts, the location on the tape of one claimed voice effect was known. This was the one said to say 'Kurla' (Latvian: you are deaf) just after Mr. Bearman had given his name (See Report 7, pp.35-36). On 9th February, I examined the appropriate section of the tape very carefully, using the loop method developed for assessment of the experimental recordings at Bad Krozingen (see Report 14, p.64). Eventually I discerned this voice effect; it was deep and 'throaty' and might conceivably have been a cough from the next room or have come from the same source as the wheezy breathing. Although, initially, 'Kurla' seemed a reasonable interpretation, repeated listening to the loop revealed that the sound had three syllables, perhaps 'Kur - lu - chi', and it now seemed more like a mechanical noise.

Although I applied the loop method to other sections of the tape, I was unable to detect any more voice effects. On 28th February, Mr. Bearman lent me the tape on which he had recorded the evening's proceedings on his own recorder, and it seemed fairly clear from studying both that the tape I had was the only one made by the PYE engineers. So on 7th March I made a copy of the tape and sent it to Mr. R. A. Cass for a second opinion. Mr. Cass (see Report 22) has been one of the most successful of those who have recorded voices in this country, and I thought he might be able to hear better than me. I then returned the tape, with my thanks, to Mr. Prickett.

Mr. Cass' first reaction was, 'I am returning your bit of tape separately. It is a scrap from a Bander recording just before the onset of voices and is itself negative and worthless.' When I assured him that it was instead the complete recording, that Bander had devoted most of a chapter in his book to it and that it was said to have convinced Sir Robert Mayer of Survival, he listened again.

This time he reported detecting in the microphone section 'during Sir Robert Mayer's remarks a quick, poor quality voice which seems to say 'Hugo' (German pronunciation) .... it is by no means the sort of 'Voice' I would offer as evidence of the Phenomenon ... If anyone says there are other voices on this tape then it is I who needs a hearing test.' (Mr. Cass is a hearing aid consultant. Early in our correspondence he had suggested that I might have developed a 'reactive functional aphasia', a sort of psychological/emotional barrier preventing me from hearing the voices.) Of the 'diode' section he wrote, '... this is to me just unintelligible noise and not even normal diode background hum'.

I telephoned Mr. Prickett on 2nd March. Confirming that no other recordings had been made, he said that he thought that most of the time spent in analysis had been devoted to the microphone section, although it was possible that a few voices had been found on the 'diode' part. Asked what he thought of the voice phenomenon, he replied that he was not sure what to make of it, but if the tape was played loud enough, and one listened for long enough, it was possible to hear sounds, words and sentences which sounded like voices. He and Mr. Attwood had not heard of the phenomenon before they had been approached by the *Sunday Mirror*. They had been asked to bring and operate the equipment and to make sure that no trickery was involved - and this was what they had done.

It is possible, perhaps, that the voice effects, being faint, faded off the tape during the two years between when it was recorded and when I heard it. But this has not happened to other tapes which have been in my possession for the same - or longer - periods. If Dr. Raudive's detailed notes or edited copy tape were available, perhaps some progress might be made, for example in matching odd noises to the voice effects claimed, or in establishing that some fading had occurred. In the absence of such further evidence, the results of this experiment seem very dubious indeed. (I should stress that this statement should not be taken as reflecting adversely on Mr. Prickett and Mr. Attwood. As has been explained, they were called in to make sure that there was no fraudulent manipulation of the tapes. By all reports they discharged that duty quietly and efficiently. As professional recording engineers, rather than tape recorder design specialists, they could hardly be expected to comment on the physics of the process, or the likelihood of recording spurious effects.)

6th June 1974

This report was compiled during the spring of 1974, with only the glossary (now a separate section) to be completed. It was thus the last of the reports to be done, and the consequent delay held up the distribution of Reports 22 and 23, with the final result that none of these last three was issued.

OTHER WORKERS: NEWS & VIEWS

REPORT 22

1st November 1972 to 30th September 1973

Preliminary.

This report covers work done since the end of Report 19 and not mentioned in other reports.

Further Progress.

1. Mrs. V. Powell.

The story of Mrs. Powell's voices (Report 19, pp.84-85) has proved interesting in a number of ways. The 'extras' occurring during her sittings with Mr. David Young were by no means the only examples of prima facie communication, so perhaps a brief outline of the other aspects would be helpful.

Mr. Robert Powell, the technical director of a firm manufacturing scientific instruments, died suddenly of a coronary in April 1970. He was a dynamic man, devoted to his work, and not inclined to take 'no' for an answer - the kind of person who might be expected to make a good communicator. Mrs. Powell had been a journalist and was not previously aware of any mediumistic gifts, but after her cousin suggested that she sit quietly with a pencil in her hand she found that she was able to receive messages from her husband. This inspirational communication was not really automatic writing, because Mrs. Powell was usually aware of her husband's words before her hand wrote them down. Eventually she more or less dispensed with the pencil and purchased a cheap tape recorder into which to dictate the messages. Not only was the awareness of her husband's continued presence and care a source of comfort, but his help proved invaluable in solving various domestic problems, especially those of a mechanical nature.

Mrs. Powell seems to be a very successful sitter, and had several good sittings with London mediums before those with Mr. David Young during which the extras occurred. Later she has sat with Mr. Leslie Flint on two occasions, again with good results. Copies of the (David Young) extras were used in Listening Test 1 and their clarity demonstrated (Report 20, p.92). Another feature worthy of note was the way the second 'I love you darling' was uttered: it was very characteristic of the slow deliberate way in which Mr. Powell, in a final attempt to make himself heard, used to shout to his wife from upstairs.

At my first visit Mrs. Powell gave me a 'sitting' with 'Bob': he appreciated my interest and hoped that I could assemble a team of scientists to study the matter. He was delighted with his success with David Young, but thought that more progress would be made if Mrs. Powell could find another medium who was more interested in working with tapes.

As mentioned in Report 19, I arranged to be present as an observer for Mrs. Powell's next sitting with Mr. Young, but this time there were no extras and instead Mr. Powell suggested through Mr. Young that his wife and I should sit on our own with perhaps some music in the background. Naturally we tried this, but we found that, however soft the music, it effectively masked any possible voice effects. Sitting without music (on 12th November) we obtained some interesting effects: these occurred while Mrs. Powell was reading to me her record of a sitting she had given to

one of her husband's scientific colleagues. One or two sounded like the word, 'Bob', and the third, 'agate' or 'I got it', was included in Listening Test 2 and discussed in Report 20 (p.93).

Mr. Powell's scientific colleague and friend had been interested in psychical research for many years, and he joined us for further experimental recordings. He suggested that we try table-tilting, and we were soon able to get messages from 'Bob' by this method. Both through the table and through Mrs. Powell, 'Bob' said that he would do his best to put his voice on the tape, and claimed success for his earlier efforts (with David Young and 'Bob' and 'I got it'). We made a number of recordings: during the table-tilting, sitting quietly, Mrs. Powell holding the microphone, and so on, but we listened in vain for any extras.

At Mrs. Powell's suggestion I visited a phonetics expert (or speech therapist) at a London hospital on 7th February, and played him some of the voices. He was fairly certain that the 'extras' from the recording of Mrs. Powell reading were unconscious utterances, and that the David Young extras were whispered from a point very close to the microphone. But if Mr. Young did whisper them himself it remains to be explained how he did so without speaking closer to the microphone than about nine inches, and without Mrs. Powell, who was following his every word, noticing or hearing him. Mrs. Powell has sat again - by herself - with Mr. Young, but the sitting was not so good as the earlier ones and there were no extras.

To summarize: despite good results with mediums and various examples of prima facie communication all indicating a determined effort on the part of Mr. Powell to put his voice on tape, he does not yet seem to have been unambiguously successful. Results obtained without a medium would appear to be unconscious utterances, and the most interesting effects obtained so far, the whispered extras with Mr. David Young, have not been repeated and could be, at best, some sort of 'direct voice', at worst, deliberate embellishments by the medium - though why he should choose to produce them (and then get so upset about them) is not at all clear. In other words, the case is a good illustration of the problems and frustrations of psychical research.

2. Research Group in Doncaster.

Mr. K. H. Turner, a research chemist and a member of the S.P.R., first wrote to me early in 1972, to say that he and his colleague, Mr. D. R. Stockley, were thinking of conducting experimental work on the Raudive Voices and would appreciate any advice I could give them, particularly with regard to recording techniques, so I sent him copies of my reports.

He wrote again (18th June 1972): "... We have carried out a number of experiments using three different tape recorders (two Philips models and a Grundig TK 20) with various types of input: microphone, diode, transistor radio (two types), ring modulators, noise generator, etc., so far without any real success. At the moment we are concentrating on microphone input and using short periods of conversation and silence, the topic of conversation appropriately being the voice phenomenon with 'key' words like 'Kosti' and 'Raudive' inserted. We hope that similar material from *Breakthrough* may elicit some response from any communicator who hears his (or her) own name. At a later stage we hope to gather a larger group of people together under seance-room conditions to see if the phenomenon is enhanced in any way by the presence of one or more 'sensitives'."

While I was corresponding with Mr. Turner, Mr. L. F. Ryan, another colleague, was in correspondence with Mr. A. W. Rossiter (Secretary of the C.F.P.S.S. Committee for the Study of Scientific Research), and in February 1973 sent him an account of their progress, from which I quote the following: -

"I was approached by Mr. Stockley last Spring with the suggestion that I joined with Mr. Turner and himself in an investigation of the 'voices'. They had studied *Breakthrough* and *Carry on Talking* and felt it worth following up.

"We met monthly at the Stockleys' house and Mr. Turner built the necessary ancillary apparatus, such as the 'diode' circuit suggested in *Breakthrough* (the *low-frequency* type), which he tested carefully in his laboratory using a signal generator. We tried all the suggested methods of obtaining voice recordings without any success. On only one occasion did we obtain anything we could not explain - a voice singing, 'La - la - la' - but as this particular tape may have had something previously recorded on it we could not in all honesty offer this as evidence.

"After several months of unsuccessful effort we decided to arrange a session at my home to which we invited several people, with the idea that we needed more 'power' to draw from. Two tape recorders were used, one at each end of the room. One was used with the microphone and the other connected to the low-frequency 'diode' circuit. All tapes were brand-new and still sealed in cartons before fitting to the machines. Several test runs of 10 mins. or so duration were made, some with normal conversation taking place, some where specific 'questions' were asked of any possible communicating entities, and some with just silence.

"Playback revealed nothing until the last test run, when to our astonishment we found we had recorded faint voices from the 'diode'. Repeated playback, however, revealed a background of music and the voices proved to be probably German. After further checking we finally realized that we had somehow picked up medium-wave radio broadcasts from one or two stations around 225 m.: something reckoned to be impossible by the experts quoted in *Breakthrough*, but confirmed by Mr. Turner when he checked the 'diode' with a frequency generator.

"After this we were much disappointed and inclined to feel either that the whole phenomena reported were probably spurious or that it was necessary to have a person present with strong mediumistic ability. However, Mr. Brown (a fellow-member of the C.F.P.S.S.) and I, together with three other interested friends from our Church, have been meeting fortnightly to discuss matters psychic, and I have taken the opportunity of doing tape recorder test runs several times each evening. So far, no successful recordings have been produced, but we intend to keep on trying, and I think Messrs. Stockley and Turner intend to resume experiments in a few weeks' time. We intend to introduce different 'sitters' from time to time to establish a possible relationship between phenomena (if obtained) and types of people involved."

On 10th June Mr. Joel Honig and I visited Doncaster and met Messrs. Ryan, Stockley and Turner. We discussed various aspects of the voice phenomenon and in particular the problems of microphone recordings. Mr. Stockley and Mr. Turner had investigated some 35 alleged hauntings, and stressed that unless all extraneous noises were noted down at the time, they were very easily forgotten: when tapes were played later they could be mistaken for voice effects. Mr. Stockley said that it was not enough "to take witnesses' reports that 'nobody said anything that we hadn't remembered'... With a group of people, little things are said off the cuff - somebody starts to say something and then stops - when we've made recordings one of us has sat with a pad of paper jotting all these sounds down - even something like turning the page of a book, because that could be interpreted as speech." They had found this procedure to be essential, not only with voice experiments but also when making recordings in the course of investigating hauntings.

Mr. Turner told us how they had recorded a radio programme from the low-frequency diode circuit given in the Appendix to *Breakthrough*. They had used the 'diode' on a number of previous occasions and never recorded more than the clicks from electric light switches, and even on the evening in question had obtained nothing until they shortened the aerial, which was originally about 6" - 8" long. "We started at about

7.57 p.m. and ran through 128 revs. - at 29 revs. we got the 'James Bond' music, and at eight o'clock some chimes, which we thought at first were Big Ben, but this was followed by a German voice reading the news .... loud and clear!" Yet all the experts writing in *Breakthrough* had said that such a thing was impossible!

3. Mr. Raymond Cass.

I first wrote to Mr. Cass on 1st March 1973, at the suggestion of Mr. H. V. Bearman, who pointed out that in an article in *Psychic News* (16th September 1972) Mr. Cass had said that he was preparing a tape of selected voice samples. A lively correspondence developed, from which I quote the following brief extracts: -

DJE 1.3 "I have been studying the claims of Dr. Raudive for over two years and I would be very interested to hear any examples which you have recorded ... I should also appreciate any information as to recording methods used."

RAC 2.3 "By now you should have obtained your own results and Raudive's 'claims' should have been superseded by your own voices ... special or fancy circuits are unnecessary; just follow Raudive's instructions ... accept tentatively that you are getting in touch with an Intelligence ... The Voices ... are an intrusion into our electronic receiving systems ... If you will let me have your rough conclusions after two years of study I may be able to make up a cassette of voice examples."

DJE 8.3 "... Having stated my position with regard to Dr. Raudive's work," (to be discussed in Report 23) "perhaps I have made more reasonable my request that those who claim to have obtained similar - or better - results should provide evidence to support those claims in the form of convincing and clearly audible effects recorded? ... A recommendation to believe first and experiment afterwards, and an injunction to repair to the attic (?) and record one's own (equally spurious?) effects is not going to satisfy the impartial scientific investigator.. Perhaps I just do not have the ear to detect the voice sounds? If you would like to listen to the enclosed tape ... and tell me where the voices are to be found (and, if possible, what is said), I should be most grateful."

RAC 12.3 "I have your letter but gain from it the distinct impression that you are not in possession of some of the latest data on the 'Voices'. You may be suffering from a reactive functional aphasia associated with emotional reaction to the 'Voice Controversy' ... an entirely subjective reaction ..."

RAC 14.3 "I am returning your tape ... (which is) negative and worthless. I still think you should aim for your own recordings as you are probably innately unable to accept second-hand recorded material. Maybe you should also check your own hearing ..."

DJE 16.3 "... I was interested in your diagnosis but would point out that I approached the phenomenon initially with a strong inclination to belief that it was genuine. ... I am concerned that I may be unfamiliar with the latest data, and would appreciate further enlightenment ... I was most surprised to see your comment: (the tape) was NOT 'a scrap ... before the onset of voices' ... Who is aphasic now?" (N.B. This recording is discussed in more detail in Report 21.)

RAC 19.3 (i) "... If your tape really is a sample of the material available in this country ..., then mine must be remarkable indeed by comparison ... If you have indeed been unfortunate enough to have been deprived of valuable material ... or have failed to get much of value yourself, then you are in an exposed position if you pronounce on the Voice Phenomenon as spurious ... I am sorry if I doubted the integrity of your 'Psycho-acoustic region'; maybe after all you have had bad luck in material collection. The trouble with some of my voices is that they are so good, and have such relevance, that some will say they are too good to be true! ... I will send you shortly a little cassette with a few decent examples."

RAC 19.3 (ii) "Under separate cover your tape but I have copied three of my voices on the dud diode side ... What beats me is how the voices dredge up these forgotten things. If Bender is right then the unconscious must have mastered the art of putting thought on magnetic tape. But what selects arbitrarily the odd incidents recalled? ... I have now enough material obtained under my own conditions to validate the Voices for me personally ..."

DJE 26.3 ".. I listened to your voices with great interest ... They are certainly louder and clearer than any which I have heard of Mr. Bander's, but Mr. Taunton had some quite good ones with the microphone method. I would say that they are on a par with the better of Dr. Raudive's voices, but of course it's very hard to judge on only two or three samples ... If my publication of a 'non-proven' verdict on the voice phenomenon results in a greater availability of positive evidence, then I think that would be a good thing. Research is surely a matter of finding out the truth, rather than obtaining 'proof' to justify a preconceived viewpoint ... I was interested in the hearing tests you mentioned, and think it would be an excellent idea to compile a standard hearing test to administer to people listening to voice samples ... What is needed is an accurate measure or differentiation of acute, healthy hearing."

RAC 28.3 "... I have skimmed through your reports and would like to echo Mr. de Rivaz. To illustrate, I spent £45 on a souped-up version of the multi-band receiver which has given me some good voices in the past. Squelch control, more power, greater selectivity, extra bands - the lot. Result: about 70% less voice phenomena! I am back on my old Juliette. Regarding microphone voices, I agree about the tendency to form phonemes out of all kinds of random sounds on playback, a curious disturbing trick - but against this I have some really startling mic. voices which have an autonomy and authority of their own ... I think the phenomenon is a curious amalgam between human consciousness and electronics ... I am a bit disturbed at my own results; after all, people may not be too keen on getting a hearing aid from me if they think it may be 'hexed'."

DJE 2.4 "... I was interested to hear the story behind some of your voices and I shall look forward to reading your article in *Psychic News*. One thing about which I am not clear: who interpreted the evidential voices, you or the person to whom they referred? You said they were meaningless to you but I was not sure whether you meant the sounds or the words. I was interested to hear what happened when you bought a new radio, but of course the sceptics would say that there was another reason why you got fewer voices with it! I certainly admit the existence of mediumship apart from fraud ... If you would like to take part in tests under controlled conditions I am sure this can be arranged. These ... would have to be done if you wished to write anything for ... the S.P.R."

RAC 2.4 "Here are some voices for you ... a mixed bag, some very intelligible ... I have now revised my former opinion after realizing that my results are of rarer quality than I at first supposed ... I have decided that there must be some element of 'aptitude' involved and that a few people project a field which in combination with the ambient field and the specific field around the tape recorder forms a bridge for the intrusion of some human or quasi-human intelligence. This intelligence is aware of one's thoughts."

RAC 3.4 "I am enclosing a little tape with three interesting voices received yesterday. One is a complete mystery: (it) appeared on a pre-recorded cassette ... I thought I would have a little jazz and right in the middle of Basin Street Blues appears this voice ... To answer your query: the West Adams voices were intelligible immediately to me: the content was foreign ... As to the S.P.R. ... I saw them on the telly last week poking about in haunted houses looking for poltergeists with Instrumentation, with the usual negative results ...

I would prefer to be investigated by groups less interested in poltergeists and haunted houses and showing more enthusiasm for the type of work being done in the Soviet Union ... although I would not object to anyone like yourself spending a day up here given plenty of notice ... I know in mediumship that the medium's 'controls' or guides can in most cases be attributed to subconscious impersonation, but ... how can my unconscious produce hundreds of different voices: male, female, British, German, Russian, Polish, etc.? ... I find the survivalist hypothesis better and, using it as a springboard, I get better voices ... But I must now get on with my real job in life which is helping impaired hearing ... Thank you for your correspondence - you are not so unreasonable as I was led to expect!!"

DJE 17.4 "... After a preliminary hearing I would say that your voice effects are on a par with the better of Dr. Raudive's. It was interesting to hear the story behind each voice recorded. You might like to test whether you are exerting some mediumistic effect by seeing whether voices are recorded on your apparatus in your absence ... The other factor ... which might account for the varying results reported is difference in apparatus and how it is used/patience of the operators. I do hope you will not judge the S.P.R. by television programmes on psychical research ... The aim of the Society is to examine these matters in a scientific and dispassionate way ... Thanks again for your correspondence ... You have been very helpful."

On receiving the tapes of Mr. Cass' voice examples I copied them carefully, using a loop to repeat each ten times. I numbered them and copied the relevant portion of Mr. Cass' commentary after the voice sample to which it referred. Comments on the voices refer to how I can hear them on my composite tape, and it will be appreciated that the original recordings may have been somewhat clearer.

Mr. Cass introduced the tape with the following statement of his recording methods: "These are voice examples recorded - and copied - on portable domestic equipment. The methods used are radio 'interfrequency' and microphone. On 'interfrequency' I use little-used VHF regions where a sudden voice breaking in and saying something meaningful is like coming across a footprint - one footprint - in virgin sand. I call these, 'footprint voices'. There are compound voices but with one speaker dominant, also 'erratics': voices which break through with unusual clarity onto interfrequency or onto microphone recordings. Such voices are infrequent, but when they do occur they impress one with their loudness and clarity: they have a spaceless quality."

Listening to the tape, one is struck by the similarity between Mr. Cass' voices and those recorded by Dr. Raudive. In quality, these - assumed to be a selection of the better of Mr. Cass' recordings - would rate on Dr. Raudive's scale from about A to A^- to B^+ or B. Compared with the voices used in the listening tests (Report 20) they are all less clear than the best included, but some of the better ones are of similar clarity to (for example) 'diese Farbigen' or 'Wiederum Klemma'. There is usually no difficulty in spotting which sounds are the assumed voices. For most of the less clear effects I found it hard to suggest any alternative to Mr. Cass' interpretation and, indeed, without this interpretation I would have been quite unable to suggest any interpretation at all. A 'learning effect' is quite noticeable: when I listened to them before drafting this report I could recall Mr. Cass' interpretations for about half the voices as soon as I heard them. On the other hand, although unable to offer such interpretation with any confidence, there were a few voices for which I thought I heard something different, e.g.: -

25	RAC	he can't get suicide	DJE	in front of ship
32	RAC	Herren der Medizen	DJE	man ordered a thing
33	RAC	levelling	DJE	public

The voices usually comprise short phrases in English, German, or some combination of these languages: Mr. Cass speaks both fluently. He has recently read with interest Mr. Friedrich Jürgenson's *Sprechfunk mit Verstorbenen*, finding that some of the latter's concepts applied to his own work. (e.g. 'Quanta Periodicity' - "at certain times ... the entities push through lots of material followed by perhaps weeks of silence.") On one occasion just after he had been discussing Jürgenson he received "an alien female voice ... exclaiming, 'He's my true Freddy'!"

In discussing each voice, Mr. Cass explained its relevance to his situation at the time. Space permits mention of only one or two interesting examples. The first, 'Focus Positiv noch' (Focus scores again!), was recorded after he had sold two 'Focus Green Spot' hearing aids to customers who had selected them in preference to other makes which should theoretically have suited them better. The second was recorded in July 1972. "We had a blank fortnight and I expressed myself rather forcibly one afternoon (to the voice entities) because we'd received no voices ... An answer came very quickly on playback - 'bringing audible' - in a very persuasive tone, and that was followed the same afternoon by up to twenty voices of various types."

The microphone voices have a very pronounced 'mechanical' quality, and one is reminded of the effects recorded by Mr. Taunton. The sounds are loud and distinct, but one would hesitate to describe them as vocal. Mr. Cass hesitates too, and wonders whether one, which resembles a spitting sound, may be related to Dr. Raudive's 'Konstantin pluj!' (Konstantin, spit on it.) For another, he tried to discover what might have made such a noise, but his lamp switch sounds quite different.

"When I do a microphone play-in, I am invariably alone in my room, which is very quiet, with no traffic or other obvious noises of interference. There is a clock which the microphone sometimes picks up, but as this is a portable cassette recorder the condenser built-in microphone is not too sensitive unless the source of sound is quite sharp and fairly near. I am usually lying on my bed and I make a preliminary announcement: 'This is a microphone recording, one - two - three - four.'" While it is not immediately obvious what might have produced the strange sounds recorded, it is clearly impossible to come to any definite conclusions about them without having been present when they were recorded.

I visited Mr. and Mrs. Cass and Miss Ingrid Feuchte with Mr. Joel Honig on 10th June. Mr. Cass played us some of his voices and told us about them. He makes his 'interfrequency' recordings on a 6-7-year-old 'Juliette' multi-band receiver tuned to certain VHF frequencies. It is interesting to note that a new and improved version of the same receiver, used simultaneously, receives less than 20% of the voices; also that Mr. Cass has been able to obtain (radio) results only in his office in Hull, and not in Scarborough or Bridlington. (In fact, when he suggested to the voice entities that he would try making recordings in Bridlington, he got in answer a rather testy voice saying, 'You can't expect two places'!) He is not dogmatic about his interpretations, but open to possible correction: "One can listen a number of times, but must at some point make a decision and go on to the next voice." Often there is the problem of deciding whether to make new recordings or to study further those already made. Unlike Dr. Raudive, who maintains that the weaker voices contain the most interesting material, Mr. Cass prefers to concentrate mainly on the louder and clearer ones. And if some of them turned out to be radio fragments he would like to know this, as he has no wish to be deluded about his results.

We discussed possible hearing tests in some detail: it was felt that audiometry with its use of pure tones was not really relevant to discerning the voices - it would be better to use known words and test the listener's discrimination between similar sounds (such as 'f' and 'd'). Nonsense syllables could be included, and I suggested the possible use of 'semantic confusion' (e.g. 'inefficient chip shop'). Mr. Cass made the interesting point that it was far more natural to listen to voices with a good loudspeaker than to use headphones.

Mr. Cass later completed my Listening Test 2, and made the following comments about the voices on it: "... I can't honestly say that there is a single supernormal voice on the first seven examples ... What is the use of striving to hear words out of random sounds well below the normal threshold? Intake of breath, grunts to oneself, unconscious repetition, very low, of a word one has just articulated, all of these may be picked up by a good mike. The mind seizes on random sounds and suddenly there seems to be a word ... In my own work any of these faint, ambiguous noises and whispers and barely audible sounds are thrown out or erased ... Some of the later voices, 9-11, 13, 14, are a fairer test. Even in these cases there is evidence of German corruptions, but many of the genuine paranormal voices are polyglot and grossly deficient in grammatical exactitude!"

After checking the above account and suggesting a few minor corrections (now made), Mr. Cass kindly sent the following additional notes to bring it up to date (15.11.73):-

"1. There has been no fading or diminishing of the ability to record voices of good audibility.

2. Voices now tend to be louder, sentences longer, and an elementary dialogue answering my thoughts/verbalisations sometimes occurs. This can be unnerving.

3. Voices are in all languages and in mixtures of them. Grammar is flouted. The rapid, rhythmic speech as earlier reported is still evident, although my 'communicators' (for unknown reasons) can use normal speed.

4. Remarks can be pointed, personal and sometimes blunt.

5. A very clear female voice said recently, 'Raymond .... we use recordings.'

6. One has the impression of being plugged into a network and experimentally fed in metered doses with chosen but brief material.

7. A nervous person could get the impression of being bugged - from human or non-human sources.

8. Overt hostility is absent.

9. If interest wanes, something will be pushed through to revive one's attention - sometimes with remarkable volume.

10. I have abandoned microphone experiments for lack of time.

11. To cope with my interfrequency voices I am buying cassettes wholesale!

12. The S.P.R. should recognize that there is something here. Unless they get on with experiments persistently and pragmatically they will be overtaken, particularly by Soviet experimenters.

13. The English-speaking world of psychical research is grossly deprived of vital data found in Jürgenson's book.

14. I am still of the opinion that investigators should attempt to record their own voices, but I am afraid that extreme dedication and sacrifice of time is obligatory. Any investigator so doing, and being a little lucky, will for all time in his own mind have ruled out the 'anecdotal' objection.

R. A. Cass HULL November 1973"

There is little doubt that Mr. Cass has been by far the most successful of those in this country who have taken up study of the voice phenomenon. However they are ultimately explained, I feel that his results are worthy of further study.

4. Mr. Joel Honig.

Although a number of Americans, notably Prof. and Mrs. Walter Uphoff, have visited Dr. Raudive and other experimenters on the Continent, the only person from the U.S.A. to keep up any sustained experimental study of the voice phenomenon would seem to be Mr. Joel Honig. (See Report 19, p. 82.)

Mr. Honig came to England again at the beginning of June this year to carry out some recording experiments with mediums. He also visited Mr. Sheargold and we visited Mr. Cass and the research group in Doncaster together, as mentioned above. Mr. Honig was able to tell me more about his studies and play me some tapes. He had given up all the radio methods as being too likely to produce spurious effects, and concentrated his attention on the microphone method, making recordings with himself and a friend present and with various informal groups.

His methods and some of his conclusions are well summarized in a letter which he wrote me on 16th November 1972: "Last Sunday I did a recording (in which ten people participated) that has produced the best results to date. I believe the conversations were also cassette recorded by one of the participants and, if so, I shall compare my tape with his. Not only are the 'extra' voices neither hurried nor polyglot nor in iambic tetrameter, but they are clearly and plainly audible and perfectly understandable. The tape recorder was not of particularly good quality, and at first playback I had assumed that they were our own. Now, after preliminary analysis, such an assumption is untenable: one voice is in French, which was not spoken during the recording (and includes a nasalized vowel, 'donc', found only among European languages in French and Polish), one is of a woman with a strong, possibly oriental accent and another has an unmistakably English accent. The last-mentioned occurred after a participant suggested that we stop chattering and start concentrating:

Mrs. B.: Concentrate ..... quietly ...
VOICE : Concentrate ..... mmmmyeah ..... and I shall talk.

"I am convinced that the voice phenomenon is real but that all subsequent investigation of it must be based on objective and scientifically valid criteria. At this stage of our knowledge it is absurd to make metaphysical speculations, and to presuppose the presence of a human 'medium' recalls the arguments of the Phlogistonists to explain combustion. I hope that the work done so far will inspire some latter-day Lavoisier to answer two straightforward questions: Where do the voices come from? and How do they get on the tape? The methods outlined in your Report 11 might just - hopefully - spur him on his way."

As the recording mentioned was one of those Mr. Honig brought to England, I was able to listen to it myself. There were certainly voice intrusions where Mr. Honig indicated, and it was usually possible to work out (and agree) what was said, but not having been present I could come to no judgement as to the likelihood of such phrases having been uttered as 'asides' (which the speakers might not have realized would be recorded) by persons present. Often two or more conversations seemed to be taking place simultaneously. Listening to further recordings (without the benefit of Mr. Honig's analysis) I noticed no sounds inconsistent with normal causation. 'Concentrate ..... and I shall talk' proved to be interesting; we copied it onto a loop and I definitely heard '.... and I shall talk'. But on the original tape, and in the context of the rest of the conversation, I could also interpret it as a certain participant repeating, 'Concentrate ..... on Arthur Ford'. Repeated listening failed to resolve the dilemma.

I suggested to Mr. Honig that four people ought to be the absolute maximum for microphone recordings, since otherwise it was impossible to control the proceedings sufficiently closely to be sure of noticing all the odd remarks and stray noises. He expressed his full agreement, but his - very tentative - conclusion from his own work was that such voices as he might have obtained were louder, more frequent, stronger and

clearer with more people present than with just one or two. Certainly one could introduce more discipline as to who spoke and when, but this might kill the process by which the voices were produced. Perhaps a television camera (with video recorder) could be used to watch each participant?

5. New Developments in Dr. Raudive's Work: The Case of the Parakeet.

News that Dr. Raudive was making fresh progress in his work came in a letter from him dated 5th November 1972: "... I hope to be on the tracks of the energy used by the voices, due to new developments. The phenomenon manifests much clearer than before..." More information came in a letter of 4th March 1973 with notice of a meeting at Bad Krozingen to discuss 'direct voices', and shortly afterwards, almost simultaneously from Mr. Cass (28th March): "... a woman who may be an independent direct voice medium... her voices emanate from a part of the room where there is a budgie..." and Mr. Honig (30th March): "... the messages are sometimes... contained in the chirping but, more often, record as direct voices, but only when the feathered friend is present." The full story reached me on 24th May, in the form of a chapter from Dr. Raudive's forthcoming book, translated by Mr. Honig.

A fourteen-year-old girl, who had been given a parakeet (or budgerigar) the previous Christmas, died in June 1971. Some months later, her parents, playing back tapes of the bird's chirping, became aware that it was uttering meaningful sentences in German, for example, 'Was heute geschieht? Die Mami ist aufgeregt!' (What is happening today? Mummy is excited!) They wrote to Dr. Raudive but he was reluctant to investigate: many people, knowing of his interest, write to him about voices, and further study almost invariably yields negative results. But they persisted, and eventually came to see him, bringing some tapes with them.

Dr. Raudive's first impression was that a number of voices were conversing rapidly, accompanied by the bird's chirping. Male, female and children's voices could be distinguished. Later analysis showed that the voices in question had many of the characteristic features of the voice phenomenon: polyglot speech, shortened or altered words, and rapidity of utterance making them hard to decipher. But unlike voices obtained by other methods, it seems that they were distinctly audible at the time of recording.

When he and his collaborators had confirmed the use of Latvian and mention of relevant names - unknown to those present when the recording was made - Dr. Raudive decided to visit the bird and carry out his own experiments. He was able to do so on 9th-10th November 1972. A total of 13 recordings were made: with the parakeet alone, with Dr. Raudive present, with one or both of the girl's parents present, and with all three present, and in various locations. Voices were obtained in nearly all of them, and often seemed to be relevant to the circumstances. Dr. Raudive writes, "Attentive observation of the parakeet reinforces the impression that certain sounds are created within the bird's energy field. Normally lively, the parakeet became quiet before the voices appeared and seemed to be listening to what was happening around him... The bird voices manifest in full light, whether the bird is chirping or quiet, with or without participants present."

From Bern Zoo it had been ascertained that parakeets (in contrast to African grey parrots and mynahs) were not known to speak more than a few words. Some of the utterances, such as the bird's name, 'Putzi', could be accepted as having been learned - but what of the other, more complicated phrases and sentences? Experiments with other parakeets in Kiel and in Bern have so far yielded negative results.

Reading the account, a critic of the voice phenomenon might be forgiven for regarding the story with tolerant amusement - as a caricature of the other voices - and for concluding that the sounds heard were merely 'projected' into the budgerigar's random chirping.

Somewhat unexpected, however, have been the derisory comments, not from critics, nor from serious experimenters such as Mr. Cass and Mr. Sheargold, but from other protagonists of the 'Electronic Voice Phenomenon'. Perhaps they were loth to see it giving way to an 'Ornithological Voice Phenomenon'? But if one can (apparently) believe in the mediumship of an inanimate tape recorder, why not in a living creature such as a budgerigar having mediumistic powers?

Mr. Honig and I were given considerable food for thought when Mr. Cass played us some samples of the 'Putzi' voices. As we said when we discussed them shortly afterwards with the research group in Doncaster, they didn't sound like a bird at all! (I found the voices somewhat reminiscent of single-side-band transmissions received on an ordinary radio.) There were none of the clicking sounds and chirps which one normally associated with budgerigars, though we agreed that Dr. Raudive was very likely to have edited these out. Mr. Ryan said that he found the budgie sounds rather hard to interpret, as his knowledge of German was limited. The main question in my mind, however, was not whether Dr. Raudive had interpreted all the bird's remarks accurately, but whether there was any substratum of speech to be interpreted.

It was generally agreed that budgies could talk, and that some could do so remarkably clearly. If they were ignored, they would mutter away happily to themselves. One of Mr. Ryan's group had a talking budgie, so they would be able to record its voice for comparison purposes. Mr. Turner pointed out that if a bird, for example, could talk at all, it was hard to put any limit on what it could say. How could the extent of its vocabulary - or the range of phonemes which it could vocalize - be determined? Mr. Honig conceded that one might teach it its name and a few cute phrases, but it was strange that the bird could say 'Petrautzki' and repeat other names out of *Breakthrough*: if these were not projections or misinterpretations perhaps the bird owner's categorical denial of any prior knowledge of Dr. Raudive's work should be viewed with some suspicion. On the other hand, some of the phrases sounded less than human, but more than just a parakeet: he wondered whether the phrases cited were actually uttered by the bird, or whether some alteration of its original chirping was occurring: this would argue more strongly for paranormality than a bird that could say, 'Hullo, mein lieber Putzi' and a few other suitable phrases.

We concluded that discussion was no substitute for visiting the budgerigar ourselves and investigating - at first hand and from the beginning - what was really happening.

6. Mr. R. K. Sheargold.

I wrote to Mr. Sheargold again on 6th June: "... It has been a source of some puzzlement to me to understand the reasons for your apparent reluctance to meet me, or, to put it another way, what might be called a policy of polite non-cooperation... I am wondering whether you may have been led to expect that I was more unreasonable than perhaps I am? ... I do admit that I am less enthusiastic about the paranormality (of the voices) than when I started, but my aim is not to 'debunk it all' as nonsense. The purpose of any scientific investigation is surely to find out the truth - not to prove that one's own preconceptions are true..."

Mr. Sheargold replied (10th June): "... The time I am able to devote to the voice phenomenon is very limited... and very fully occupied by my own experiments and in helping others who are actively engaged in personal efforts to receive the voices... When I have more time I hope to make public various interesting and so far undiscussed effects I have noted; until then I must do the best I can.

"If you require assistance in actually attempting to receive the voices yourself I may be able to help, but I understand that your policy is to avoid personal experimentation in case you develop 'incipient mediumship' and to confine yourself to

investigating the claims of others such as Jürgenson and Raudive. This line of attack although it will undoubtedly earn you much praise from many of our 'parapsychologists' is of no interest to me.

"I am utterly unconcerned as to what you write about me in your own reports; but if you really want something factual you may care to note that to date I am entirely uncommitted as to the origin of the voice phenomenon, although completely satisfied as to its existence. As the result of my own experiments I would say that although there is much to support a survivalist hypothesis, there are also an important number of counter-indications. The first priority is to improve the decipherability of the voices by technical advancement to a point where all ambiguity is removed. In order to achieve this goal it is necessary for as many serious minded level-headed persons whether electronically trained or not to be regularly receiving the voices themselves and cooperating by the comparison of results and the conducting of experiments. You are right in seeking the truth, but you will not get it by standing aloof from the phenomenon. I too seek the truth - in the manner I have outlined above. It does not matter if Raudive sometimes claims paranormal voices where only radio breakthrough exists; nor if Jürgenson is clairaudient. If ONLY ONE VOICE among all the millions now claimed is truly paranormal then the reality of the phenomenon would be established. If, after all this time you find yourself still in doubt then I think it probable you will always be in this position. *I* am in no doubt!

"You have my permission to include if you wish this statement of my aims in your report; meanwhile let us pursue the truth in the way that seems best to each of us!"

I thanked him for his friendly letter and clear statement of his position, adding (15th June): "From what I understand, you have succeeded where Colin Smythe, Peter Bander and I failed in that you have established the prima facie case: that, by the various methods, there are recorded voices which can be interpreted as meaningful and relevant. You say that the decipherability must be improved, so presumably you appreciate that the case for paranormality does not rest easily on arguable interpretations. What steps have you taken to ensure that the voices are not arriving by natural means? My research has shown that this is not at all easy, but has suggested a number of essential precautions. I believe that these must be applied before we attempt to improve the reception by more advanced electronics (see the comments by Mr. de Rivaz in Report 19, p.83). And I think that carefully controlled experimentation is more likely to produce a valid conclusion than the 'bundle of sticks'/'one white crow' theories."

On 16th September (at a Symposium organized by the Institute of Parascience), Mr. Sheargold gave a talk, 'Experiments on the Jürgenson Voice Phenomena'. As this is one of the few sources of information about his work and attitude to the voice phenomenon, I am taking the liberty of quoting a few extracts: -

"My own experiments commenced in the middle of 1971, but it was some time before I heard my first voice, partly due to my being unlucky enough to have two tape recorders available, one of which had too little amplification and the other, too much mains hum. At present I have received (voices) by the microphone method, the 'diode' method and the 'interfrequency' method. Although the voice phenomenon can be received by all three methods, the type of signal varies: microphone voices can be fairly loud by the standards of the phenomenon, but generally the phrases spoken tend to be extremely short, often only one or two words. Great care has to be taken to avoid extraneous noises as far as possible - noises such as clocks ticking, chairs creaking, etc. The 'diode' method produces longer phrases and the voices are very clear, but they are exceedingly soft and often speak in whispers. A great deal of practice is usually necessary before these 'diode' voices can be heard, but since they are relatively clear deciphering is then generally easier than with the microphone method. The 'interfrequency' method, since it relies on a radio set, produces a high background noise and it is hard to avoid some small amount of radio interference. Generally the voices one receives are more satisfactory than with either the microphone or the 'diode' method, insofar that they tend to be louder relative to the background and that they also on occasion articulate quite long phrases."

Mr. Sheargold described the distinguishing characteristics of the voices, including the polyglot composition of the phrases detected by some experimenters, such as Dr. Raudive and Mr. Cass (who often gets a combination of English and German). "There seems no obvious reason for the use of polyglot phrases - I speak only English and I receive phrases only in English - but it is noteworthy that one of my collaborators, who speaks German, receives voices speaking either in English or in German but not polyglot. The voices have yet another and even more intriguing trait: they can at will, it seems, modulate or modify an ordinary sound and change it into a spoken word. They will also take a few words of ordinary radio speech and modify them into the words they wish to utter, at the same time imparting to them the characteristic rhythm. I myself have one such example but unfortunately like all the voices I receive it is extremely weak, and on an occasion such as this I find this a matter of great embarrassment, for the simple reason that although I've received many hundreds of voices which have been carefully logged (and I can repeat them at any time) none of them is loud enough for a demonstration of the voice phenomenon."

Mr. Sheargold suggested that the majority of people with the persistence and patience to make and analyse their own recordings would be able to receive voices of some sort, but perhaps very few would be lucky enough to get such loud and clear signals as were received by Mr. Cass and Dr. Raudive.

The content of the messages revealed that the entities were aware of the experimenter - his thoughts, questions and recent doings - and he himself had had many simple 'ouija-board-type' questions answered. But the type of voices depended on the experimenter: Dr. Raudive had messages from relatives and friends and many other, often famous, people not known to him, one of Mr. Sheargold's friends received many distressing pleas and calls for help, while another had mainly voices relating to the last war. "In my own case the voices I receive are those of deceased colleagues in psychical research - no relatives regularly speak, one office colleague is fairly regular, but to compensate for all this my star communicator is an old school friend who passed over more than thirty years ago. It seems that she - and she alone - has the power to get at least her name through to me under almost any conditions."

Mr. Sheargold then discussed the problem of hearing and interpreting the voices in some detail: "By far the biggest problem facing the voice experimenter is that of correctly deciphering the voices. The advent of the phenomenon has highlighted the fact that hearing is not by any means just a matter of good ears alone: quickness of comprehension and the ability to concentrate are involved, and almost certainly other factors as well. It is an undeniable fact that a dozen people possessing normal hearing so far as everyday life is concerned on being confronted by one of these voices - which may be quite loud and apparently clear - may interpret it in a dozen different ways. Sometimes listeners will even disagree as to the number of syllables spoken, and obviously this greatly complicates matters."

But things were not so bad as they seemed: "The voice phenomenon can be identified by the peculiar rhythmic characteristic I have mentioned. Practice enables the experimenter to recognize it immediately. Undoubtedly the correct deciphering of voices is a matter for practice, and recent tests I have made have shown me that unanimity is not uncommon among experienced experimenters. To those who argue that the only way to ascertain if it is possible correctly to decipher the voices is to present a number of people known to possess normal hearing with a number of voice samples, without giving them a clue as to the nature of any question asked or request made to the voice entities by the experimenter, I would reply that this is a rather

unreasonable test. Anyone who has ever been guilty of listening to conversations not intended for him will know how difficult it is to catch more than the odd word or two when the subject under discussion is unknown. In such cases it is mainly the consonants that get lost, only the vowels remaining. With the voice phenomenon we are constantly faced with the task of deciphering a phrase mainly from its vowel sounds - a task which is helped considerably if we have at least some clue as to what was the question asked or the request made."

Mr. Sheargold then outlined his conception of how the phenomenon should be investigated. "The advent of the voice phenomenon has presented the psychical researcher with an opportunity he has never had before. Hitherto in psychical research he has been forced into the rôle of investigator, but now for the first time he can carry out experiments in his own laboratory - if necessary, alone - and what is more, the phenomenon makes its own permanent record. But it seems that the modern 'parapsychologist', as he prefers to call himself, is not in the least experimentally minded: he vastly prefers the rôle of investigator. Since he scorns to carry out any experiments himself he can pontificate upon the work of others, secure in the knowledge that his own work can seldom be criticized. Psychical research has suffered too long from a surfeit of third-rate investigator-pontificators. We now have the situation with the voice phenomenon where the very few experimenters are pursued rather as though they were latter-day D. D. Homes!

"If the voice phenomenon research is to make progress, we need a large number of dedicated enthusiasts prepared to observe the phenomenon daily and report regularly on their findings. Ideally, the problem should be tackled on two fronts: a dedicated body of observers should be working in conjunction with an equally dedicated body of electronics enthusiasts constantly designing and constructing new equipment for the observers to test. There are two main aspects of this problem: the observation of the phenomenon and the improvement of the electronic apparatus. Up to the present I have only had experience of the simpler methods of receiving the voices, but other apparatus is on the way and will be in action as soon as my limited time permits. Already my efforts have met with some success - my colleagues and I have identified an effect I have named 'the scatter effect'. It has been noted that in many cases a voice will appear accompanied by a number of weaker repetitions. These may be as many as eight in number, although one or two are more common, and may occur either before or after the main voice, frequently both. Other effects have been observed, and I shall make them known in due course.

"The voice phenomenon is new. It is essentially challenging, above all it calls for action: practical work, not investigation of the work of others or academic theorizing. The parapsychologist who merely wishes to investigate the work of others will get nowhere - nor the person who, finding that he can receive plenty of reasonably loud voices, merely settles down to receive them and accumulates thousands of voice samples without making the slightest attempt to properly log or analyse them.

"Concluding this paper I would briefly refer to the three main possible explanations of the voice phenomenon. These are, firstly, the subconscious mind, secondly, the action of discarnate entities working through the subconscious mind, and thirdly, the action of discarnate entities directly influencing the magnetic tape. If we consider the third hypothesis, we have here to accept that entities can influence a material object without any intervening channel such as a medium. If indeed this direct action is a fact, then the entities are truly independent and could be, as they claim, the spirits of the deceased. It is also possible that some at least may be another form of disembodied life of which hitherto we have had no knowledge. Perhaps the entities so skilfully using our tapes may be a mixture of both. All this is pure speculation. Before we can even consider any hypothesis, we have much work to do. Let us go ahead together and accomplish the task."

Some further points were raised during the discussion period. On the subject of Dr. Raudive's 'parakeet voices', Mr. Sheargold said that he did not believe that the bird was a medium, but rather that the effects observed were another case of the voice entities' modification of natural sounds. In one of his own recordings, made when birds were twittering in the garden, "to my utter amazement I got three definite meaningful remarks in a reply to one question all in modulated bird noises."

I asked whether he felt that any form of mediumship was involved in the voice phenomenon? He replied, "I think that the evidence is very strongly against it. All sorts of things would point in the opposite direction, such as voices coming through when there's nobody present at all. On the other hand, I would agree entirely that there is definitely some connection between the person who is experimenting and the type of voices received: it seems as though there's a wide variety in the voices received by different people." I then asked, "Do you think perhaps there's any reason why some people get strong voices like Mr. Cass, and other people get weaker voices? Is it the people, or is it the equipment they use?" Mr. Sheargold said that he was convinced that it was not the equipment used, but he thought that the locality and the time the person was able to devote to experimenting would play a part. There was also a third factor, very tentatively related to the personality of the experimenter - whether he had a wide social circle or, on the other hand, kept himself to himself.

Mr. Brian Millar, a psychologist and currently holder of the Perrott-Warrick Studentship, said that he had made a number of recording experiments following the instructions in Mr. Sheargold's booklet, with negative results. He had recorded effects which sounded like voices, but he was concerned about the absence of any objective criteria which might enable the experimenter to distinguish between genuine and spurious effects. Another member of the audience pointed out that voice prints had been used in some of Prof. Bender's work, but of course these do not distinguish between genuine voices on the one hand and radio fragments and uncontrolled utterance on the other.

After some discussion of the usefulness or banality of the voice phrases usually recorded, I asked, "Have you ever asked questions to which you did not know the answer, found the answer from the tape and later verified that this was so?" Mr. Sheargold agreed that this would be very useful and extremely interesting: if he succeeded he would let me know, but he had not had such results so far.

7. Mr. Günter Henn.

Mr. Henn (Bruchsal, Germany) visited me on 19th August. Although his imperfect hearing prevented him from making his own recordings, he had taken an active interest in the voice phenomenon and had conducted two surveys of voice experimenters in collaboration with Mrs. Hanna Buschbeck. The first of these (mentioned briefly in Report 15, p.71) had shown conclusively that the voice experimenters were not receiving any help from 'the other side' towards improving their recordings. The second was designed to explore the relationship between the voice phenomenon and the 'astral' or 'fluidic' body of the experimenter - the 'second body' described by Mr. Robert Monroe in his *Journeys out of the Body*. If this had any electromagnetic properties, perhaps it could be used to affect the tapes. Mr. Henn was sceptical about the ability of deceased persons to affect the tapes: if Survival meant the continued existence of some spirit body, then this spirit body, present also in a living person, should be equally capable of such action. Out-of-the-Body Experiences had shown that such a spirit body, if it existed, could in some cases be separated temporarily from the physical body. He was sceptical too about the idea that the tape recorder was some sort of a medium: tape recorders were a new invention, but ostensibly paranormal voices had been heard for centuries. Apart, perhaps, from some cases of haunting, a human medium was always necessary for the production of psychical phenomena. Thus Dr. Raudive's own mediumship could account for the results obtained with the budgerigar, although Mr. Henn did not really consider these impressive.

Mr. Henn pointed out the very close parallel between Dr. Raudive's results and the hallucinatory voices heard by Swiss schizophrenics (studied by Bleuler): both comprised polyglot sentences, neologisms and grammatical distortions. This was not to say that those who recorded voices were schizophrenic, nor that what they heard was entirely hallucinatory, but it was possible to conceive that the voices might be produced by some dissociated fragment of the personality which somehow exteriorized and impressed them on the tape.

8. Note on Report 20 Microphone Voice: 'tserek' (p.90).

I used this voice effect to illustrate my presentation, 'Voices on Tapes', to the Society for Psychical Research on 12th September. Mr. Cassirer, hearing it again, recalled having said something at this point in the experiment, and, moreover, remembered what this was.

It seems that I had introduced the recording without announcing the number on the tape recorder rev-counter, and he was reminding me of this by saying, (English spelling) 'selveg'. We understand that the German term is 'Zählwerk', but Dr. Raudive seems to prefer the pronunciation given. It is interesting to note that although this differs a little from the 'majority verdict' ('tserek'), it does fit in quite well with the interpretations suggested.

12th January 1974

Another eleven months on from Report 19 bring the period of investigation up to the three-year mark. Despite the fact that my conclusions are beginning to be fairly firmly held and formulated, the study shows that the voice phenomenon continues to have a number of interesting and intriguing aspects.

CONCLUSIONS

REPORT 23

Summary, Discussion and Conclusions

Preliminary.

This is the last of the series of reports describing my studies of the voice phenomenon (or 'Raudive Voices'). Only if there is some major new development or radical change in my conclusions will any further reports be issued.

I shall summarize what I have done, discuss what I have found out, and then give my conclusions. At the end of the report will be found a bibliography of articles and books on the voice phenomenon.

Summary of Investigation.

The following brief outline shows the main course which my investigation has taken:

A. Study Reports Available and Write Research Proposals

B. Collect Information

1. IMAGO MUNDI Conference
2. Correspondence: Prof. Alex Schneider Ing. Theodor Rudolph
   Mr. W. G. Roll Ing. Franz Seidl Dr. Jürgen Keil
3. Prof. Bender's Report on Jürgenson
4. Case of Parakeet (translated by Joel Honig)

C. Study *Breakthrough*

D. Visit Dr. Raudive
   September 1970 May 1971 October - November 1971

E. Visit or Meet Other Workers

1. In England

Mr. Peter Andreas (pseudonym)
Mr. Kenneth Attwood
Mr. H. V. Bearman
Mr. Raymond Cass
Mr. Manfred Cassirer
Mr. John Cotton
Mr. Denny Densham
Dr. Alan Gauld
Mr. Richard Gill
Mr. G. Croom-Hollingsworth
Mr. E. R. Hughes
Mrs. ----
Mr. Francis Morton
Mrs. C. N.
Mr. G. A. Player
Mrs. V. Powell
Mr. Ray Prickett
Mr. Philip Rodgers
Mr. L. F. Ryan
Mr. Richard Sheargold
Mr. Simon Stark
Mr. D. R. Stockley
Mr. Michael Taunton
Mr. K. H. Turner

2. In U.S.A.

Mr. Joel Honig
Mr. D. Scott Rogo (incl. details of
Dr. Andrija Puharich
Mr. Attila von Szalay)

3. On Continent

Prof. Dr. Hans Bender	Herr W. P. Mulacz
Frau Hanna Buschbeck	Dr. jur. Hans von Noorden
Dr. Gottfried Geir	Dr. Arnold Reincke
Herr Hubert Goßner	Ing. Theodor Rudolph
Dr. Hans van der Haas	Prof. Alex Schneider
Herr Günter Henn	Ing. Franz Seidl
Dr. Phil. Theo Locher	Herr Max Tobler

F. Experimental Recordings

1. Informal Experiments
2. With Messrs. Colin Smythe & Peter Bander
3. With Dr. Raudive in Enfield
4. With Dr. Raudive in Bad Krozingen

G. Listening Tests

H. Technical Comments and Experiments

General Comments	Mr. Joel Honig
'diode' experiments	Mr. George Hood
Mr. Brian Baily	Mr. R. T. Lovelock
Mr. S. E. Brown	Mr. A. H. Reeves
Mr. Norman Gaythorpe	Mr. J. de Rivaz
Mr. A. Peter Hale	superhet receiver

I. General Appraisal and Comments

J. Further Information

Glossary Bibliography

Notes.

The above represents a detailed study of the work, methods and writings of Dr. Raudive, a broadly-based survey of the progress made by others interested in the voice phenomenon and a certain amount of supporting experimental and technical data.

As already mentioned (Report 10, p.49), I have not spent very much time making and analysing my own recordings. Apart from the practical considerations that this flat is rather noisy and happens to be near to a VHF transmitter, there seemed to be little point in going back to where Dr. Raudive started in 1964, and repeating - or attempting to repeat - his work. Secondly, it is purely an assumption on the part of Dr. Raudive and others that 'anyone' can, with patience, obtain similar results. I chose to avoid this assumption by making a careful study of the results which he had achieved, in order to find out how they came about and how others might come to the conclusion that they could duplicate them. One of the first steps in understanding the latter came with the realization (Report 4, p.24) that it was extremely easy to interpret faint sounds in a subjective way.

The experimental week at Bad Krozingen in November 1971 (Reports 11 and 14), like the test in the screened room at Enfield (Report 6, p.32), was intended merely as a pilot run, to assist in the design of more refined and specific tests. Had Dr. Raudive been able to come to England again, a series of experiments in screened and sound-proof rooms could have been conducted. Failing this, the necessary apparatus had to be taken to Bad Krozingen. Further to the first series of experiments there, it was envisaged that tests would be made with better screening of equipment and with multiple recording systems designed to locate the apparent source of the voice effects and to determine at which stage they impinged on the apparatus.

Such experiments were never carried out, for two main reasons. Firstly, it was becoming apparent that to tackle them properly would require quite expensive and sophisticated equipment - beyond the scope of my Studentship budget or the facilities available for constructing it. One example was the 4-track in-line tape recorder, which first estimates suggested would cost £900, although later it was discovered that cheaper models had been developed. It should be remembered that I have undertaken this investigation as a private individual living on a limited grant and a modest expense allowance, not as a large research team with the support of a university department or industrial laboratory. Apart from what has been made available by interested friends, my equipment has comprised little more than a car, a couple of tape recorders, a few tools and a typewriter. For this reason voice-print or speech spectrogram analysis - an expensive and skilled technique - has been largely outside my scope, although I would not have hesitated to use it if I had recorded voice effects of sufficient interest under well-defined conditions.

Secondly, and more important, the results of the pilot experiments were very discouraging. Even without strict controls, very few effects were recorded which might have strengthened even the prima facie case for the phenomenon, and it seemed very likely that even these could be explained quite simply by reference to natural causes. This absence of ostensibly paranormal effects meant that more refined tests, to examine them more closely, were no longer necessary.

The validity of the listening tests was discussed briefly in Report 20 (pp.101-102 & 104-105). It will be noted that the results apply in general to the clearer of Dr. Raudive's voices, and to what might be heard by the average listener. No attempt was made to select people with specially acute hearing, yet it was discovered that - with two exceptions - the hearing acuity of the group was quite satisfactory, and not significantly different from that of Dr. Raudive. No doubt the range of interpretations offered by a group of trained listeners would be less, but it should be remembered that even voice prints can be ambiguous (see Report 18, p.80).

Discussion.

1. Some Misconceptions.

Various myths which had arisen about the voices: for example, that they were always 'twice the speed of human speech', that Dr. Raudive 'boosted' or processed them in some special way, and that he never recorded any music, were dealt with in the discussion in Report 10 (p47). It was also suggested there that the peculiar rhythm of the voices might be a natural result of the way they were received and recorded, and not in itself evidence of paranormality.

More understandable is the idea that hearing the voices requires a long period of training and practice. Certainly some experience and practice is necessary, but so often it seems to be devoted to the wrong ends - to spotting and 'interpreting' faint and fleeting sounds which are really well below the threshold of accurate recognition. Noting that Dr. Raudive's hearing did not seem to be much better than that of those taking part in the listening tests, and the fact that practically all his interpretations have some sort of meaning, whereas the listeners often resorted to nonsense syllables, one could reasonably conclude that what the listener does seem to develop with practice is a faculty for producing 'interpretations' by a process of guesswork, coupled with a growing confidence in the accuracy of these interpretations.

Some writers have erroneously described Dr. Raudive as a scientist. He is, however, a philosopher, although he has been interested in psychology and parapsychology for many years. A man with considerable gifts of exposition and literary talent, he has written a number of books and translated others, and has also held academic appointments in the humanities at Riga and Uppsala. His knowledge of electronics, on the other hand, is minimal, and his approach to the voice phenomenon,

although sincere and painstaking, should not be assumed to be strictly in accordance with recognized scientific method.

2. The Technical Aspects of the Voice Phenomenon.

It was soon evident (Report 1, p.11) that the technical side of Dr. Raudive's work was not very closely supervised. Having little technical expertise himself, he was forced to rely on apparatus built for him by interested physicists and electronics engineers, and to accept their statements about the suitability of such apparatus.

It would seem that the 'interfrequency' radio method was the chief inspiration for the further developments. If voices could be recorded from a radio tuned 'between stations' or to an unmodulated carrier wave, other devices capable of receiving radio signals - preferably over as wide a range as possible, so as to be sure of picking up the voices, whose broadcast frequency was not accurately known - might also be successful. Hence the broad-band 'diode' and 'Psychofon', and the 'autotransmission' method, which provides its own unmodulated carrier wave. The 'Goniometer' is also essentially a radio receiver, but some of its more bizarre features (e.g. the crossed ferrite rods and the large permanent magnet) were inspired by Mr. Rudolph's pendulum communications with 'the other side'.

It has already been observed (e.g. Report 15, p.71) that the radio and other devices allow fragments of broadcasts to be received indiscriminately and recorded, generally rather indistinctly. Whatever their theories about the origins of the voice it is hard to see how those responsible for developing the apparatus could have been unaware of this. Rather than relying implicitly on Dr. Raudive's supposed ability to discriminate between 'genuine' and spurious 'effects', one might have expected that they would have carried out some careful tests to establish what their devices could pick up normally, and to which frequencies they were particularly sensitive. But, so far as I have been unable to ascertain, this was never done.

Further experimental work under carefully controlled conditions seems also to be sadly lacking, apart from Prof. Bender's work with Mr. Jürgenson. Enthusiastic promotion of *Breakthrough* was accompanied by statements to the effect that the technical hoops had been gone through and the alternative natural explanations eliminated, that large numbers of distinguished scientists had carried out extensive tests in Faraday cages, and so on. Such experiments turned out to be more fictional than real; only a few scientists were involved, on a strictly spare-time basis, and Prof. Schneider, one of Dr. Raudive's chief collaborators, explained that his functio was more to assess the results than to conduct experiments himself. Indeed, he advis me not to place too much reliance on reports of experiments where the same voices wer said to have been recorded simultaneously by several tape recorders (Report 2, p.15). I do not wish to criticize those concerned for the lack of imaginatively designed, unbiassed experimentation (and I too could be criticized for failing to carry out suc work), but merely to point out that since it has not been done it should not be clai that the validity of the voice phenomenon has been placed on a sound technical basis.

Moreover, it has been shown that some of Dr. Raudive's voices (recorded by 'Goniometer') were actually an announcement in English from the commercial radio station, Radio Luxembourg (Report 13, p.61; Report 20, pp.96-97). It is rare that ra voices are sufficiently clear for such unambiguous identification, but other investigators have reported similar examples. Far from using his experience and bei the first to spot the radio origin, Dr. Raudive continues to insist that they are paranormal effects.

3. Interpretation of the Voice Effects.

The reader of *Breakthrough* can have little idea of the intelligibility - and hence the reliability - of the many voice phrases quoted therein. He may well accept - and I would agree with him - that such phrases are extremely unlikely to have been

broadcast. But the casual visitor to Dr. Raudive is hardly better placed, for there will be little doubt that the latter can spot the voices quicker than he can, and provide plausible interpretations of the sounds on the tapes. Accepting that training [illegible] Dr. Raudive's hearing, it is hard not to credit him with the sheer volume of the for the voice phenomenon even anyone whose hearing was at all interpretations.

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Moreover, it has been shown that some of Dr. Raudive's voices (recorded by 'Goniometer') were actually an announcement in English from the commercial radio station, Radio Luxembourg (Report 13, p.61; Report 20, pp.96-97). It is rare that radio voices are sufficiently clear for such unambiguous identification, but other investigators have reported similar examples. Far from using his experience and being the first to spot the radio origin, Dr. Raudive continues to insist that they are paranormal effects.

3. Interpretation of the Voice Effects.

The reader of *Breakthrough* can have little idea of the intelligibility - and hence the reliability - of the many voice phrases quoted therein. He may well accept - and I would agree with him - that such phrases are extremely unlikely to have been

broadcast. But the casual visitor to Dr. Raudive is hardly better placed, for there will be little doubt that the latter can spot the voices quicker than he can, and provide plausible interpretations of the sounds on the tapes. Accepting that training and practice have sharpened Dr. Raudive's hearing, it is hard not to credit him with getting at least some of his interpretations right, and the sheer volume of the material now on his tapes would make an impressive case for the voice phenomenon even if only 1% had been interpreted correctly. Moreover, anyone whose hearing was at all defective would be quite unable to dispute Dr. Raudive's interpretations.

But rather than setting one's own hearing against Dr. Raudive's, the sensible approach is to ask whether other people, listening independently, hear the same words as he does. In *Breakthrough* (p.184) Dr. Raudive states that he agreed with a fellow experimenter that 'if two or three persons independently and repeatedly hear a particular voice, proof of the existence of that voice may be held to be established.' He goes on to say that '35 - 100% of the voices have been independently heard and verified by collaborators.'

Closer examination of what such independent verification comprised showed that it was not so independent as might be thought. During one of our visits Mr. Cassirer and I helped Dr. Raudive 'verify' one of his recordings (Report 8, p.39). We soon discovered that 'verification' meant agreeing with Dr. Raudive - if we disagreed, or advanced alternative suggestions, we were accused of guessing, or of not hearing 'correctly'! Other workers whom we met in May 1971 confirmed our experience: they asserted that 'Raudive forces the interpretations.' In an Appendix to *Breakthrough* details are given of the results of Dr. Raudive's listening-in tests. Having taken part in one (Report 1, pp.10-11), I can briefly describe it: the listener is told Dr. Raudive's interpretation, and the voice sample played several times. He is then asked to mark on a form whether he can hear the voice 'very clearly', 'clearly' or 'insufficiently clearly'. He thus has no opportunity to make his own interpretation, or to hear the voice without the strong suggestive effect of knowing Dr. Raudive's interpretation. If he accepts this suggestion and claims to hear the voices clearly, this is taken as constituting independent verification, but if he disagrees and marks all the voices as 'insufficiently clear' he is likely to be classed as being hard of hearing! Further discussion with Prof. Schneider (Report 8, p.41) confirmed our fears that verification of Dr. Raudive's interpretations - even by his trusted collaborators - involved hearing those interpretations first, and then possibly reaching some agreement about them.

I discovered that Dr. Raudive himself was not immune to suggestion, in an amusing incident which occurred during our experiments at Bad Krozingen. We had been making recordings in stereo, with one microphone inside a sound-insulating box - a device which Dr. Raudive regarded with amused tolerance. During a recording he had asked the voice entities what was the significance 'of these amusing experiments with this box'. On playback a noise could be heard on the tape after his question, so I quickly thought up a suitably favourable reply to fit the rhythm: "I hear 'wissenschaftlich' (scientific)", I said. Dr. Raudive listened for a number of times before announcing his agreement: "Yes, 'Wissenschaft'" (See Report 14, p.66 No.14 (102))

Later the same week we discussed the problem of independent verification with Dr. Arnold Reincke, who has listened to more tapes and probably verified more of Dr. Raudive's voices than anybody else. He said that there had been occasions when he and Dr. Raudive had interpreted the tapes separately, and their interpretations had been much the same, although he did not give any details. This was done only as an isolated test, and no one seemed to think it at all important (Report 13, p.58).

A detailed examination of the 'polyglot' nature of the messages received by various experimenters reveals that the languages heard correspond closely with those understood by the listener. Thus Dr. Raudive hears predominantly Latvian, with

Russian, Swedish and German, while Mr. Jürgenson covers a number of European languages, and even Yiddish. Mr. Cass hears English or German, and Mr. Tobler, who speaks little English, told us that the phrases were polyglot at first - until the listener was convinced that they were paranormal - and then reverted in his case to German and Swiss-German (Report 8, p.41). Other experimenters hear voices only in their native tongue. Mrs. Hanna Buschbeck and Mr. Günter Henn conducted a survey of 41 persons experimenting with the voice phenomenon: they found that polyglot phrases were received only by persons who spoke several languages. As an apparent exception, Ing. Th. Rudolph reported voices speaking Latvian and Russian, but it was discovered that Dr. Raudive had interpreted these tapes for him.

Dr. Raudive rates his voices on a rough scale (Report 3, p.19): Grade A comprises those which 'can be heard and identified by anyone with normal hearing and knowledge of the language spoken', Grade B voices are more rapid and softer, although 'still quite plainly audible to a trained and attentive ear'. But Group C 'consists of the most interesting voices; voices that give us a great deal of information and much paranormal data. Unfortunately these can be heard only in fragments, even by a trained ear...' This classification is useful for considering the intelligibility of the voices recorded. First of all, we note from *Breakthrough* (p.383) that hardly any of those taking part in the listening-in tests were able to hear B voices - even with the suggestive influence of hearing Dr. Raudive's interpretations. So it is fairly safe to dismiss B and C voices from further consideration.

What of the A voices? These, we find, are subdivided on a scale ranging from A^{++}, the very clearest, through A^{+} and A to A^{-}. Some of these were included in the listening tests described in detail in Report 20. It was found that the A^{++} voices were interpreted with quite good agreement, even though they were in German, with which most of the listeners were not familiar. The interpretations offered were not exactly the same, but they varied over quite a narrow range, and some of the letters or syllables were present in practically all of them. Some of the A to A^{+} voices were also well agreed, but this was because they were in English and had been recognized as part of a radio announcement. The other A voices produced considerably less agreement: it appeared that some of the phonemes could be heard by everybody, but the rest were indistinct and therefore the subject of guesswork. There seems no reason to suppose in these cases that Dr. Raudive was not guessing as well.

Bearing in mind that the radio recording methods were all susceptible to interference from normal transmissions, we conducted a series of experiments with Dr. Raudive using the microphone method (Report 14). The results were rather disappointing in that not only were no effects recorded which might have made out a good case for the voice phenomenon, but Dr. Raudive 'discovered' a large number of voice effects in what seemed to be ordinary, naturally-occurring low-level sounds. These were similar to his other voices in that Latvian predominated and the words and phrases were cryptic and sometimes polyglot. A few of the clearest were used in the listening tests, but the listeners could reach little agreement, except that some were of non-vocal origin and that others were likely to be uncontrolled utterances from persons present. (See later.)

This finding strongly suggests that the interpretation of the voices is a subjective process, and this is of course supported by the other observation mentioned above that the languages of the voice phrases are those understood by the listener. Another confirming feature is what I have called the 'Uncertainty Principle': the more interesting and evidential a voice is claimed to be, the harder it is to hear it (Report 3, p.19). Dr. Raudive expresses this in his declaration that the C voices are the most interesting and 'give a great deal of information and much paranormal data'. As the sounds become less distinct so the imagination has a wider scope in assigning words to them. At the clearer end of the scale we recall the occasion (Report 13, p.57) when Dr. Raudive fitted Latvian phrases to Dr. Puharich's American English, but could

not get them to make sense. Here too are the A^{++} voices; neither polyglot nor necessarily incompatible with a radio broadcast (Report 20, p.106), and the English voices from Radio Luxembourg (Report 13, pp.60-61 and Report 20, pp.96-97). We can contrast the 'Uncertainty Principle' with the result from the listening tests that the 'meaning content' of the phrases suggested decreased as the agreement between the listeners became less. When the voices were clear the listeners could hear words - though not always the same words - but as they became indistinct they could produce only nonsense-syllables. (Report 20, p.103)

Mr. R.K. Sheargold, one of the leading English experimenters, has criticized my insistence on 'listening test' verification of the voice phrases (Report 22, p.130). He maintains that to present people with voice samples without giving them any indication of what questions had been asked or requests made of the 'voice entities' is an unreasonable test - everyone knows how much it helps to know the context when trying to understand barely intelligible speech. I can only say that when it is a matter of determining whether or not the phrases recorded are compatible with having come from radio broadcasts, the questions asked of hypothetical 'voice entities' are quite irrelevant, and would merely complicate the matter, for example by suggesting a certain reply which, by approximating to the sounds on the tape, might result in an entirely spurious 'agreement' between different listeners. 'In the voice phenomenon,' says Mr. Sheargold, 'we are constantly faced with the task of deciphering a phrase mainly from its vowel sounds.' By and large, I would agree with this, and would merely point out that this is an ideal situation for the operation of guesswork. How such guesswork operates for different experimenters can be seen in the variety of 'voices' they receive - some threatening, some pleading for help, others from relatives, famous people, deceased psychical researchers, and so on.

One rather amusing product of subjective interpretation of the sounds is the theory that the 'voice entities' can 'modify' broadcast speech or other sounds, such as mechanical noises or even the chirping of birds, into meaningful messages (see Report 13, p.61 and Report 22, p.130). This idea borders on the unscientific, in that it is practically impossible to falsify, especially as distortion is very likely to occur during reception and recording. It might be suggested that 'Romani Nimowald zamuchilsa' was the product of such a paranormal modification, but the fact that the original words ('reminding you about Dimensions') were still recognizable by English listeners suggests the simpler hypothesis that the words had merely become less distinct, so that alternative, more imaginative interpretations were possible. The sounds of speech often have features in common with other noises, particularly those of a mechanical nature, and it is not hard to fit words to these with the help of a little imagination: one has only to think of the suggestive clickety-click of railway carriage wheels.

An experiment which might be described as the ultimate in subjective interpretation was described to me by Mr. C. Maxwell Cade (Hon. Sec. of the S.P.R.) last September. A group of people were played a tape, which they were told was a very poor-quality copy of a talk on a certain subject, and they were asked to write down as much of it as they could hear. Although there was, in fact, nothing on the tape except white noise, many of them managed to produce a number of phrases and even sentences on the topic suggested.

4. Uncontrolled Utterance.

This is one of the major problems associated with microphone recordings, and it is particularly troublesome because it can lead to the production of the clearest and least ambiguous voice effects. Indeed, it is possible to be practically certain of what has been said, yet without any recollection or other indication of who might have said it. The magnitude of the problem may not be realized by those who have not made their own recordings - or even by those who have, as Dr. Jürgen Keil (in a private

communication concerning his work with Mr. Jürgenson in collaboration with Prof. Bender) points out: "It should perhaps be emphasized that this unconscious talk goes on usually more frequently than is generally realized and even serious investigators who are determined not to make any sound are not free of it. It seems to be particularly prevalent if one participant wishes to say something but is prevented from doing so by the continuation of speech by someone else. Spontaneous agreement with the remark of a speaker may also result in audible exclamations. It is important to note that serious parapsychologists were largely unaware of this. One of the most experienced investigators of the Freiburg team said spontaneously with the fullest conviction that particular sound phenomena which were suspected as originated from a particular speaker could not possibly be the voice of that person. Yet it was subsequently established that it was that person who had spoken without awareness. This example should clearly show that we have to be extremely careful in order to avoid this kind of error."

The reader may recall an example from our experiments with Dr. Raudive, the voice effect, 'tserek' (Report 20, p. 90). This had in fact been tentatively ascribed to uncontrolled utterance, but it was not until Mr. Cassirer remembered what he had said that we could identify it with any certainty (Report 22, p.133).

How to eliminate - or afterwards identify - these uncontrolled remarks presents problems, which increase with the sensitivity of the recording apparatus and the experimenter's predilection for identifying low-level sounds as voices. It is obviously desirable to limit the number of people present, preferably to not more than four, and to work in a room where there is sufficient sound-proofing or isolation to ensure that voices from outside will not be heard. Mr. Stockley's simple precaution (Report 22, p.120) of having someone make a note at the time of all extraneous noises, could be adopted by any amateur group, but probably the only reliable system is to have a microphone recording on a separate track or tape for each person present. This is the method used by Prof. Bender, and he has found that a microphone can be made sufficiently directional for this purpose by attaching to it a cardboard tube about 30 cm. long.

However, one central problem remains, namely that when examining recordings which have already been made - without the precautions noted above - it is impossible to say with any certainty that a given, clearly audible voice was not produced - albeit unwittingly - by someone present. For this, in fact, is the most likely origin.

5. More Positive Aspects of the Investigation.

(a) Whispered voices with mediums (Mrs. ----, Mrs. Powell)

These are of interest in that they are clear and relatively unambiguous. They seem to come from the medium, but they are not heard by the sitter at the time of recording. Being rare, they are hard to study, but the nearest analogue would seem to be the 'direct voice' whispers heard with Mrs. Osborne Leonard (see Report 6, p.33). It would be of interest to collect further examples. Are they really inaudible, or are they just so faint that they pass unnoticed by the sitter, who is concentrating her attention on other aspects of the sitting? If they are picked up by a microphone, it is very likely that they have originated as sounds.

(b) Results obtained by Mr. R. A. Cass

I indicated in Report 22 (p25) that these were worthy of further study. He is the most successful of the English experimenters, and if the voice phenomenon has any paranormal aspect, and requires some 'X-factor' of aptitude or mediumship, then it would seem that he has it. In other words, controlled tests with proper precautions might have a good chance of success.

Secondly, a careful study should be made of his recording methods, particularly the interfrequency radio method which he uses most of the time. Why are voices

received on one receiver but not on another; in Hull but not in Bridlington? The first question suggests an answer in terms of interference which has been eliminated or reduced on the more recent model, the second in terms of some fairly local origin for the signals. As Hull differs from the other locations in being a busy seaport, is Mr. Cass perhaps picking up transmissions from ships?

Some of Mr. Cass' clearer samples could be used in listening tests - with or without Mr. Sheargold's 'questions asked of the voice entities' information. Having now heard a number myself, I do not feel that they are really clear enough for unambiguous results.

Because of the probable uncertainty in interpretation, I would think that the close examination of the recording process would be the approach most likely to yield results. Mr. Cass' preference for 'little-used VHF bands' should make the task easier than on the medium wave-band. The second receiver might be used to establish what signals were being recorded, and then to tune in and receive them more clearly.

(c) Prof. Dr. Hans Bender's experiments with Mr. Jürgenson

The same sources of error are present as were found with Dr. Raudive: the same problems of uncontrolled utterance, reception of fragments of radio broadcasts and difficulties of interpretation. In fact, the examples of radio voices on the record issued with Mr. Jürgenson's *Sprechfunk mit Verstorbenen* are even more obviously radio pick-up than those recorded by Dr. Raudive. (Perhaps this is related to the fact that Mr. Jürgenson is the originator of the curious theory that the voice entities can modify the spoken broadcast words to produce other messages.) The microphone voices are hardly more convincing - two or three could be snatches of conversation misinterpreted, the rest mechanical noises.

However, Prof. Bender and his colleagues have done some controlled experiments (discussed in Report 18). Precautions included making recordings only by microphone, testing for the presence of strong radio transmissions, fitting radio-frequency filters on the microphone cables and using directional microphones to locate uncontrolled remarks. Later, some of the voice effects recorded were used in listening tests and subjected to speech spectrogram analysis.

Prof. Bender, who thinks it very likely that certain of the recordings are paranormal, plans to carry out further experiments which will show where the psychokinetic influence impinges on the material system. I await the results of these with interest. Mr. Lovelock has pointed out (Report 15, p.69) that the results obtained so far indicate that the voice effects originate as sounds: they are recorded simultaneously on several microphones and they are louder on some than on others. If this is so, how can a 'presumed paranormal' voice effect originating from the vicinity of a particular person be distinguished from an uncontrolled utterance by that person? Directional microphones might not, after all, be adequate, and it may be found necessary to use a more elaborate instrument, such as a throat microphone or a 'laryngoscope' (a device which detects movements of the larynx).

Detailed discussion of Prof. Bender's results is precluded by my not having heard any of his tapes, but two of the effects discussed in his report deserve brief comments. The first is the effect, 'So Ho Ho', an interjection said to be suggestive of a childish concept of Chinese and thus relevant to the conversation about whether Jürgenson had recorded voices in languages unknown to him. Prof. Bender thinks it unlikely that anyone should have made such an interjection, but it so happened that at the time Ing. Lemke was showing Jürgenson how to work the radio:

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The other is 'Rasmus', discussed already in Report 8 (pp.39-40) and Report 18 (p.80). At first sight it is very impressive: a name known only to Prof. Bender and relevant to the topic of conversation occurs at a time when Bender himself could not have said it. Problems arise, however, when it comes to interpretation. Mr. Jürgenson and Dr. Keil at first understood something different, but 'Rasmus' was then suggested independently by Mr. Belanger (who had just come in) and Prof. Bender. The effect was 'completely misunderstood' in the listening test, being described as 'Horch Noch' or 'Hatte''. Thus it would appear unsound to argue for paranormality on the grounds of context. This leaves open the possibility that the sounds may have been some indeterminate noise in the throat from Prof. Bender, made as he was struggling to control his coughing.

6. A Changing Attitude.

The reader of my reports can hardly have failed to notice a slow but steady change in my attitude to the voice phenomenon, from the readiness to accept it as paranormal evident in Report 1, the beginnings of criticism in my study of *Breakthrough* (Report 3), through the disillusion with my own recordings (Report 4), the disappointment in not being able to persuade Dr. Raudive to come to England for experiments and the doubts about interpretation (Report 8), to the essentially negative results of the experimental week at Bad Krozingen (Report 14), the inescapable conclusions of the listening tests (Report 20) and the final critical commentary.

Varying attitudes can also be found in other people interested in the voice phenomenon. Few believe that all the effects are paranormal, or that all Dr. Raudive's interpretations are necessarily correct. Indeed, a number would suppose that Dr. Raudive was in touch with spirit entities, but not always able to hear what they said. Others, such as Prof. Bender, reject a spiritistic interpretation and ascribe the results to some form of psychokinesis. They recognize that many of the effects are spurious, but postulate the occurrence of a few rare, genuine ones.

This belief in a hypothetical genuinely paranormal voice effect, just waiting for a well-controlled experiment to prove its existence and hence the validity of the voice phenomenon, is very attractive, and one which I myself held - to some extent - well into 1973. Gradually, however, I began to appreciate that it was not really very logical: so far there have been no really conclusive experiments to demonstrate the validity of the phenomenon; so far no 'genuinely paranormal' voice has been distinguished from any other voice - although of course a number of 'spurious' voices have been eliminated; the whole idea of the voice phenomenon has been built up on a combination of misinterpretation, voices which may have a natural origin, experiments subject to error, and wishful thinking. To extrapolate from here to a genuine phenomenon, a phenomenon which demands an explanation, not in terms of possible errors but in terms of psychokinesis and hitherto unknown powers of man, is still wishful thinking. Is there any real difference between Mr. Player (Report 19, p.81) attributing the clicks and crackles of his old radio to a female discarnate spirit, or Mr. Sheargold (Report 22, p.129) deciphering indistinct snatches of radio flotsam from his 'diode' circuit into comments from unseen entities, and the idea that one might conduct a carefully controlled experiment to prove that - some of the time at least - they might actually be right? For if we concede that the 'paranormal' voices, if they exist, are in a very small minority, we must accept that they can have had a negligible influence on the development of the 'phenomenon'. Is it really logical to postulate not just a paranormal process but one producing effects closely similar to those derived from a naturally-accountable process of error and wishful thinking?

Conclusions.

Dr. Raudive's voices are received by one of two methods: microphone and radio. To eliminate recording of spurious effects, stringent precautions are necessary, but there is no evidence that these have ever been taken.

(a) microphone voices

It is possible for the microphone cable to act as an aerial and, with rectification occurring in the tape recorder amplifier, for strong radio signals to be recorded. However, this does not seem to happen very frequently, and I would think that the chief source of this type of interference is local short-wave radio, passing police cars, etc. In general, Dr. Raudive's microphone voices are derived from (i) attribution of 'voices' to low-level naturally-occurring sounds (ii) uncontrolled utterance by persons present.

(b) radio voices

It has always been accepted that the methods using radio devices allowed normal transmissions to be recorded. (A possible exception is the 'diode' circuit, which some have claimed is immune to such interference, but tests have shown otherwise (Report 10, p.50; Report 21, p.111; Report 22, p.121).) What was at issue was whether the voices heard were part of these transmissions or something extra superimposed on them (Report 1, p.10).

Dr. Raudive claims that the voice phrases must be something extra - and therefore paranormal - because of what they say. However, from the discussion in section 3 above, it will be clear that 'interpretation' of the voices is a very subjective process, and that it is therefore not possible to determine sufficiently accurately what they say to substantiate his claim. In selecting ostensibly paranormal voice phrases from the background of radio transmissions, it would appear that Dr. Raudive is merely selecting those which are not distinct enough for their source to be obvious. (One wonders whether Mr. Sheargold's long experience in amateur radio has made him more discerning, so that he rejects more and thus finishes with a collection of weaker voices?) Some, however, have been found to be radio announcements; others which are clear enough for what is said to be determined with some confidence (but still with a little latitude) are not inconsistent with such an origin. The remainder are insufficiently clear for any decision to be made.

Results with Mr. Jürgenson appear to be very similar to those reported for Dr. Raudive. Perhaps future work by Prof. Bender will reveal that he is some kind of 'direct voice' medium and that other experimenters have succeeded only in reproducing his spurious results. Certainly the voice phenomenon has its advantages as a test for PK: as Dr. Keil has pointed out, the subject is encouraged by the belief that he is getting a rich harvest of voices practically all the time, which may lead to a few genuine ones actually appearing among the many errors. (This is in line with K. J. Batcheldor's principle that PK (and ESP) may occur as a 'genuine paranormality superimposed on a random normality'.) But I must confess that I remain doubtful.

The whispered voices with mediums are interesting, but the presence of a medium puts them into a different category from the rest of the voice phenomenon, which, it is claimed, manifests without a medium. On the other hand, if Jürgenson does turn out to be a direct voice medium, it is clear that they would form a comparative study. It is equally clear that the rest of the voice phenomenon would still have to be rejected.

Mr. Cass' recordings are too like Dr. Raudive's for me to entertain any great hope of their having come from extra-mundane sources. But it would be interesting to know how they are produced.

The reader may ask, If all the voice effects are indeed spurious, how is it that evidential messages are sometimes received? Recognizing that these would be of considerable interest, I searched carefully through *Breakthrough* and questioned other experimenters. Such messages turned out to be very rare indeed, and only one example is worth mentioning: Mr. Jürgenson's 'Sie kommen bald ... Zahnarzt ... Zahnarzt' ('They are coming soon ... dentist ... dentist'). This was a radio recording made while he waited anxiously for Prof. Bender and his research team, who had been delayed - and one member of the party was suffering from a bad toothache (Report 13, p.59). But the interpretation may have been a fortunate coincidence: thinking about Prof. Bender could have inspired the use of German, 'they are coming soon' is a fairly likely message - and Mrs. Jürgenson is a dentist. Another possible mechanism is the projection of an ESP impression onto the sounds on the tape, as may happen visually in the 'reading' of tea-leaves.

Finally, there is the question of fraud. Prof. Bender speaks highly of Mr. Jürgenson's integrity, and I would say the same for Dr. Raudive and the other experimenters whom I have met; all strike me as sincere and honest people. Someone, perhaps, might be broadcasting suitable 'messages' for them to receive, but, as Mr. Cass has pointed out, this would need quite elaborate equipment and so much time and persistence that it is hard to imagine anyone doing so much for so little reward. Mr. Manfred Cassirer has expressed the relation between fraud and delusion in the maxim, 'The besy way to fool other people is to fool yourself first!'

There is thus no reason to postulate anything but natural causes: indistinct fragments of radio transmissions, mechanical noises and unnoticed remarks, aided by imaginative guesswork and wishful thinking, to explain the 'voice phenomenon'.

As a 'phenomenon' it is interesting that so many otherwise intelligent people have become convinced as to its paranormal nature, either as the manifestation of unseen entities or as an example of psychokinesis. Possibly the undoubted sincerity and persuasive manner of its main protagonists, combined with the mystique which even the simplest instrumentation has for the layman - especially when backed by 'experts' who say that normal reception of the voices is impossible - have been reinforced by the thrill of discovering these faint sounds on one's own recordings and interpreting them into apparently relevant phrases.... Perhaps all these factors acting in concert have contrived to give this modern version of "The Story of the Emperor's New Clothes" the status that it has. But as one who himself believed in that magic voice waiting for that crucial experiment to prove its validity, perhaps I should not be too critical!

16th January 1974

POSTSCRIPT

Over three years have passed since Report 23 was written - have there been any further developments of major interest, anything which might necessitate a revision of some of the conclusions; does the perspective of time show any aspect of the phenomenon in a new light?

In my view, no. In general, the situation is much the same, but this is not to say that there is nothing worth mentioning.

Dr. Jürgen Keil, of the University of Tasmania, visited me in April 1974. He listened to the clear Goniometer recordings (Report 20, Section VII, 10-14) and confirmed, as a native German speaker, that it was very likely that they made sense in German, particularly if they could be brief extracts which might start or finish in the middle of a word or sentence (as is possible on account of the mode of action of the Goniometer). It was particularly useful to talk to Dr. Keil about the experiments with Mr. Jürgenson at which he was present - it was one of my regrets that I was never able to attend any of these experiments myself. Dr. Keil said that he was rather less inclined than Prof. Bender to accept the paranormality of the voice effects they had recorded. He did not rule out the possibility that some of the voices might be paranormal, but he was also quite prepared to accept that none of them was. He thought that the main result of the Mölnbo experiments was the realization that uncontrolled utterance was a more serious problem than had been anticipated (as discussed in Report 23).

Following my article, "Tape Recordings from the Dead?" in the February 1974 issue of *Psychic*, Joseph and Michael Lamoreaux wrote to the magazine expressing surprise that my final views could tend towards the negative. They admitted that some of the voices were open to differences in interpretation, but said that they had "found that even a person with untrained ears, if he is willing to listen to the same word-group or sentence as long as one or two hours, is likely to come up with the same interpretation as other such devoted listeners or ourselves." Their letter was published in the June 1974 issue, but having been sent a copy of it and having received other information about the Lamoreaux brothers' work, I wrote to Mr. Michael Lamoreaux on 21st April. He replied fairly promptly and sent me a tape of voice samples and explanatory comments. Unfortunately, since both of these were sent by surface mail, they did not reach me until 27th June. By this time I was involved with preparations to return to this area, and unable to give either the attention it deserved.

While it would be interesting to prepare a detailed study of the Lamoreaux' work, considerations of time and distance make this impossible. I can only make a few general observations based on the very limited material I have available.

1. From the transcripts I have seen, the voice phrases recorded (apart from the fact that they are all in English) are very like Dr. Raudive's: vaguely relevant to the questions asked, but frustratingly non-committal, ambiguous and rambling. Voice-sounds which must be repeated for up to an hour before they can be made out can hardly be other than very subjective in their interpretation, and the transcripts look like the result of guesswork contrived (albeit unconsciously) to be relevant to the questions asked of the 'voice entities'.

2. As for recording methods, Mr. Lamoreaux wrote that they had tried all the recording methods described in *Breakthrough*, as well as dozens of others (of which he included a formidable list). He did not, however, give details of any experiments to test any of these methods to discover whether they might be

recording voices and other sounds by natural, normally-explicable means. The first recording was made using the microphone method and an inexpensive tape recorder, and to me sounds just like distorted radio pick-up. Like Dr. Raudive, however, the Lamoreaux came to the conclusion that this was not the case on the basis of their interpretations of the sounds recorded rather than by any technical experiments which might have been made to try to identify the stations received.

3. In their letter to *Psychic*, they suggest " that sounds of normal origin have actually produced paranormal voices. The entities seem to use these sounds at times to form their words." I cannot help thinking that the words are more likely to have been formed by the listener's imagination.

4. One cannot but admire the persistence and patience of these two investigators, who must have spent many hundreds of hours listening intently to their tapes with headphones, trying to make sense out of weak, indistinct voice-like sounds. I am most grateful to Mr. Michael Lamoreaux for his time and trouble in making up a tape for me. I have listened carefully to the sample recordings on it, and was able to find several of the voice effects detailed in the transcripts. There were parts of the tape where I could hear a vague something of similar rhythm to the alleged voices, but others where I could make out no voices at all. If anything, the voice samples were fainter and less distinct even than I had expected them to be.

In general, then, it would seem that at the level at which they are recorded, and considering the sort of apparatus used, the voice effects could be anything from mechanical noises to stray radio pick-up. It is extremely difficult to see how they can be regarded as paranormal - except by devoting all one's time to interpreting them and then basing one's belief entirely on the resulting interpretations, to the exclusion of any technical considerations. But perhaps I am being very unfair to make such a sweeping judgement on the basis of such a slight acquaintance with the Lamoreaux' work?

The autumn of 1974 was a sad one for the voice phenomenon, for it brought the death of Dr. Konstantin Raudive. Despite our differences we had remained on friendly terms, even after my article in *Psychic*. Mr. Sheargold agreed to join me in sending an obituary to the *Journal of the S.P.R.*, which published it in March 1975. It is reproduced here by permission of the Editor.

KONSTANTIN RAUDIVE 1909 - 74

Konstantin Raudive was born at Asune, in Latvia, in 1909. A writer and philosopher, he began his career by translating Spanish authors (Cervantès and others). His first volume of essays appeared in 1938, and was followed by several novels, his major philosophical work, *Der Chaosmensch*, being published in 1951. Dr. Raudive settled in Sweden in 1946, but in 1965, for health reasons, he moved to Bad Krozingen, in the Black Forest, in Germany.

Here he pursued his study of the 'Voices on Tape-Recordings' phenomenon (originally brought to his attention in Sweden by Mr. Friedrich Jürgenson), with which for many people all over the world his name was to become inextricably linked. Whether they regard the 'voice phenomenon' as the best scientific demonstration of Survival, a subconscious emanation or as a most interesting delusion, few can fail to admire the dedicated, patient and painstaking way in which Dr. Raudive pursued his studies, with sincere and untiring enthusiasm for interesting casual visitors, scientists and press-men in his work and its significance.

His interest in psychical research, particularly 'direct voice' mediumship and the Survival question, which may have originated during his postgraduate studies at Edinburgh University in 1934, undoubtedly turned his fascination in an intriguing phenomenon into a crusade to establish a scientific proof of Survival. He spent his money on hundreds of tapes, and his time and himself in listening to them, detecting and transcribing thousands of faint, indistinct voice phrases for up to twelve hours a day - until his doctor warned him that this would damage his hearing.

He wrote two books on his researches: *Unhörbares Wird Hörbar* (The Inaudible Becomes Audible) and *Überleben Wir den Tod ?* (Do We Survive Death?) (Otto Reichl, Remagen, 1968 and 1973), the former being republished in English (*Breakthrough*) in 1971. These created as much interest among people, including scientists, not normally interested in psychical research, as among Spiritualists and parapsychologists. A number began their own experiments, following the recording procedures described, and some have succeeded in obtaining similar voice phrases.

Recently Dr. Raudive became intrigued by a parakeet which had begun to utter apparently meaningful sentences in German. Closer investigation showed that its utterances had many of the characteristics of the other voices, and Dr. Raudive pursued the case with his usual vigour.

But the long hours of listening took their toll. Dr. Raudive had a bad heart attack early last year, and it seems likely that the strain of a conference (on the parakeet voices) held at his home during the third week in August proved too much for him. He died on September 2nd.

David J. Ellis
Richard K. Sheargold

Journal of the S.P.R., 48 (763), 43-44 (March 1975)

In 1975 Mr. William Addams Welch published an account of his own experiments with the voice phenomenon, *Talks with the Dead*, and Mr. Honig kindly sent me a copy. Mr. Welch lived in California and first made the acquaintance of the voice phenomenon in 1972 through meeting Mr. Attila von Szalay and listening to his recordings. He did not study *Breakthrough* until he had made a number of his own experiments. The account of his experiences is interesting enough, but there is a sort of predictability about the author's arguments and the accounts of his recordings. Once again the same arguments are advanced for the paranormality of the voices; once again the same silence about definitive technical experiments, the same sequences of short, cryptic voice-phrases making remarks of little consequence. Those who believe in the voice phenomenon will be happy to accept Mr. Welch's voices as further good examples of paranormal communications; those who do not will remain, like myself, unconvinced. Mr. Welch died in February 1976.

Although interest in the voice phenomenon in the U.S.A. has derived mainly from the book, *Breakthrough*, and its attendant publicity, this has not been the only source. Mr. Attila von Szalay, of Van Nuys, California, who introduced Mr. Welch to the voices, has been making recordings for many years. For example, some experiments which he conducted between 1956 and 1958 with Mr. Raymond Bayless are described briefly in a letter from Mr. Bayless published in the January 1959 *Journal of the A.S.P.R.* (Perhaps I am splitting hairs in disputing Mr. Bayless' claim (*Parapsychology Review, 8.I*, 20 (January-February 1977)) that it was Mr. von Szalay and not Mr. Jürgenson who first discovered the voice phenomenon, but it would seem from the published account that Mr. von Szalay originally had the rather different aim of obtaining 'direct voice' effects and recording these on tape to demonstrate their objectivity - many of the sounds recorded were audible at the time of recording.) Mr. von Szalay has made many subsequent recordings using Jürgenson's and Raudive's methods, and further details are given in Report 19. The samples

which I have heard were not such as would impress the impartial observer: some sounded like mechanical sounds and others might well have been picked up from local short-wave radio transmissions.

Miss Susy Smith's *Voices of the Dead ?* was published in March 1977. It gives a very readable and interesting account of the voice phenomenon and the personalities involved, both in Europe and the U.S.A. Miss Smith is a well-known writer on psychic subjects, and Founder and President of the Survival Research Foundation. She is rather more enthusiastic about the voice phenomenon than myself; in fact, she suggests that the main arguments raging about the voices are concerned with whether they are messages from the dead or are derived by psychokinesis from the living, rather than whether or not they are paranormal at all - a matter which she seems to think is settled comfortably in the affirmative.

As I was preparing to write this book, and thinking again about the voices after a gap of over two years, it was particularly interesting to re-read the earlier reports, written when I was fairly confident that the voices were paranormal. But there was one aspect of the voices which I felt could be discussed a little more fully and which made me wonder whether, despite the conviction that my conclusions about them were essentially correct, the voices might still be just that little bit enigmatic ...

Just a few voices illustrate this interesting facet of the phenomenon. The first is a radio voice, taken from that 'interfrequenz' recording that only Dr. Raudive seemed to regard as paranormal at all. It was getting well past lunch time, and Mr. Cassirer and I were looking forward to the end of the morning's analysis session, when Dr. Raudive found a voice which said, in Latvian, 'We are slaves of hunger'. Here, it seems, is a good example of Dr. Raudive unconsciously sensing the unvoiced thoughts of those present and expressing them in one of his interpretations.

Next time we visited Dr. Raudive, the same sort of thing happened with the voice, 'tactful', only this time we all heard it (and agreed on its interpretation!). None of us would have suggested that we might get on better with each other if we all tried to be more tactful, but hearing this word 'objectively', so to speak, on the tape certainly had the desired result of improving relations, which had become rather strained because of our disagreement about when the analysis of our experimental sessions was to be done. Yet later it had to be conceded that 'tactful' was no more than a mechanical noise.

Most interesting of these 'dual' voices is 'Romani Nimowald zamuchils' (Russian: R.N. is tired out. The correct Russian verb would be 'zamuchilsya', with the stress on the second rather than the third syllable, but this sort of grammatical distortion is often found with the voices.) This is an 'A+' - quality voice and I am sure that many listeners would be happy to agree with Dr. Raudive's interpretation of it. But it turns out that the phrase actually comprises the English words, 'reminding you about "Dimensions"'. There is of course nothing remarkable about Dr. Raudive hearing some slightly indistinct English words and projecting onto them a phrase in Russian, although he might not always be expected to get such a good 'fit'. What is remarkable is that the message is so relevant to what he said at the beginning of the recording, when he called on Romani Nimowald and asked him to speak to him in Russian! Discounting the suggestion that he might have heard the voice first and then re-recorded his opening remarks accordingly, we are left either with a noteworthy coincidence or the idea that Dr. Raudive's decision to call on Romani Nimowald for a message that particular evening was influenced by precognition of the sounds he was later going to record.

Mr. Jürgenson's 'Sie kommen bald ... Zahnarzt ... Zahnarzt' (They are coming soon ... dentist ... dentist) is possibly an example of the opposite effect - a telepathic or precognitive impression (concerning Prof. Bender's team on their way to visit him), perhaps, projected onto the sounds on his tape.

To summarize the position with regard to these voices, it seems that while in most cases there does not seem to be anything paranormal about the sounds on the tape, the interpretations are of more than usual interest, either reflecting the unvoiced feelings of those present, providing information of which the interpreter was unaware, or fitting in quite remarkably with something he said a little earlier. In other words, they show the listener to be more psychic than his apparatus!

It is in this context that the use of a tape recorder may be most promising; not to produce paranormal results on its own account, but as a recording instrument for possible psychic phenomena. For sittings with mediums it is a valuable record keeper, but it can also capture fleeting whispers and weak ostensible 'direct voice' effects. It can show whether or not we really hear what we think we hear. And when odd events are occurring anyway, as in poltergeist disturbances, there is no harm in making a recording to see if the microphone can pick up any interesting sounds. But of course we must still be careful to consider all possible natural explanations for what is recorded.

As I have been putting my book together, I have been wondering what effect it will have on the progress and development of the voice phenomenon. Conceivably it may encourage more careful, better controlled experimentation. But if all those who are currently experimenting with voice recordings read it, accept my conclusions and then abandon their recording experiments, I shall be very surprised indeed. In fact, I shall be quite surprised if any of them react in this way, unless they are already becoming disillusioned for other reasons. My hope is rather that people who have heard about the voice phenomenon but not yet committed themselves to a definite view about it will read my book before they start making recordings, and thereby perhaps be saved a great deal of time, effort and expense. Such a result would help to justify the time and expense of my own research.

To end on a personal note, I should like to record that I have enjoyed my work on the voices, despite the fact that my conclusions are rather different from what I expected when I started. Working alone has had its problems, but has also provided useful training. I have much enjoyed my travels and meetings with other workers, all of whom have been friendly, kind and hospitable. And I have made some good friends. So I do hope you have enjoyed reading about it all.

D. J. Ellis

Harlow
18th May 1977

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Hanna Buschbeck (D - 7241 Nordstetten, Uhlandstraße 18, Germany) :

Rundschrieben Nr. 1 (8th March 1969) in progress ....
Nr. 16 (15th May 1972) ...

Günter Henn (D - 752 Bruchsal 4, Bruchsalerstraße 95, Germany) :

"Parallels to the Phenomenon of Tape-Recorded 'Voices'" June 1973

Hanna Buschbeck & Günter Henn : "Ergebnis der Umfrage über den Stand der Amateurforschung bezüglich des Stimmenphänomens" December 1971

"Ergebnis der Umfrage vom 1 November 1972 bis 15 January 1973 zum Phänomen der Tonbandstimmen" March 1973

H. H. Jurgen Keil (Dept. of Psychology, The University of Tasmania, Box 252 C, G.P.O., Hobart, Tasmania, Australia 7001) :

"The Voice on Tape Phenomena, Possibilities and Limitations" An Interim Report 1970

D. J. Ellis : Application for Perrott-Warrick Studentship 1st June 1970
First, Second, Third, Fourth Six-Monthly Reports
Supplementary Report, Final Report (1971 - 1974)

9. Periodical.

The voice phenomenon is the main topic of *Survival Research Hotline*

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GLOSSARY

A careful check through the reports yielded the surprising total of 359 words and phrases which might be described as 'technical terms'. It would be a daunting task to define all of these, but fortunately this is not necessary, as many are in fairly frequent everyday use or are clear from their context or explained in the text. The selection, out of so many, of those few terms which need further explanation is not easy and must to some extent be arbitrary, so I apologise for any omissions.

A. Psychology.

auditory hallucination : a hallucination involving hearing. A hallucination is a percept which lacks, but which can only by distinct reflection be recognized as lacking, the objective basis which it suggests. (This definition is due to Edmund Gurney, *Proceedings of the S.P.R.* 3, 154.)

difference of opinion : a polite term for disagreement, argument, etc.

projection : hearing, for example, meaningful words and phrases in random sounds.

unconscious mind : the location and source of all the mental processes which take place without our being consciously aware of them.

B. Psychical Research.

automatic writing : writing executed without the conscious control of the subject, who may hold the writing implement lightly and think of something else, while the writing is being produced by unconscious muscular action, as if the hand holding the pen were moving of its own accord. If the subject is aware of the words before they are written, but still not in conscious control of the process, this may be referred to as 'inspirational writing'.

direct voice medium : a medium (who may or may not experience trance) from whom voices are heard which are claimed to have been spoken directly by the spirit communicators. The voices do not seem to come from the medium's mouth, but rather from some point in space near him.

evidential : describing information obtained through a medium which supports the thesis that the medium might be in contact with a certain deceased person, such as the imparting of facts and details of personal characteristics of which the medium would normally be ignorant.

ouija board : consists of a pointer free to move on a board on which the letters of the alphabet are suitably arranged. Those taking part rest a hand lightly on the pointer, which produces messages by indicating different letters in turn.

ouija-board-type questions : such questions as one might ask of a hypothetical entity 'communicating' by means of an ouija board or table tilting.

paranormal : a term describing a phenomenon, event or occurrence which is inexplicable in terms of the laws of nature as presently understood.

physical phenomenon : psychic phenomenon involving movement of, or interference with, physical objects, inexplicable noises, etc. (i.e. the result of P.K.); as distinct from a mental phenomenon, which might involve inexplicable perceptions or acquisition of information by ostensibly paranormal means.

poltergeist disturbance : in which knocks, bangs and footsteps may be heard, strange lights seen and/or objects moved or thrown about without apparent cause. Originally ascribed to a 'noisy spirit' (hence the German term), this phenomenon is now also known as R.S.P.K. (recurrent spontaneous psychokinesis) as it often seems to be centred around a living person (known as the 'agent').

séance : a meeting of a group of people held for the purpose of obtaining psychic phenomena.

table-tilting séance : in which those taking part sit with their hands lightly resting on the surface of a table. After a while the table may begin to move (ostensibly of its own accord, but more probably on account of unconscious muscular action of the sitters) and can be made to spell out messages by the rather laborious process of tilting so many times for each letter (A=1, B=2 and so on).

telekinesis : an alternative term for psychokinesis (P.K.) - the direct action of the mind on a material object.

trance : an altered state of consciousness in which the personality of a medium undergoes a change, ostensibly being 'taken over' by some other being. Such other being, often known as a 'control', may be a discarnate communicator, a secondary personality of the medium or possibly a 'persona' derived from elements of both.

C. Voice Phenomenon. 1. General.

genuine voices : voices, if any, which are of paranormal origin.

mechanical origin : the production of spurious effects (q.v.) from noises made by the tape recorder or other machinery, chairs creaking, doors opening and closing, footsteps upstairs, and so on.

spurious effects : voice phrases which might be thought to be paranormal but are in fact derived from natural causes.

voice entities : the hypothetical beings who are trying to communicate with us by means of the voice phenomenon if we assume that the voices are indeed not only paranormal but also derived from a source independent of the experimenter.

voice phenomena : individual examples of the tape-recorded voices being studied.

voice phenomenon : general term for the topic of this book.

voice phrase : any single example of the tape-recorded voices being studied.

2. Voice Experiments and Listening to the Voices.

analysis : the process by which the experimental recordings are examined and the voice phrases detected, separated from each other and interpreted. For recordings made by radio methods, when often a continuous series of sounds is heard, the separation into individual phrases is essentially an arbitrary process.

context : the sounds recorded before and after any given voice phrase. When the recording has been arbitrarily divided into phrases, it can be very helpful to hear the whole recording as one continuous sequence.

edited version : a series of voice phrases selected from an original recording, each phrase being presented in isolation from its original context (q.v.), repeated several times and accompanied (usually preceded) by the experimenter's interpretation of it, with a translation of this if necessary.

input device : the microphone, radio or other (electronic) apparatus which is connected to the tape recorder for the purpose of making recordings.

interpretation : the process by which words or syllables (which may or may not make sense, and may be in one or more of a number of languages) are ascribed to the sounds on the tape. Also the result of this process, i.e. the words or syllables so ascribed.

phoneme : a consonant or vowel-sound - the smallest unit of speech.

voice-print analysis : a method of examining recordings by showing how the intensity of the sounds varies with frequency and time. Time is plotted on the horizontal axis, frequency on the vertical axis, and the intensity is indicated qualitatively on the graph by the presence or absence of a black mark. Different speech sounds give different but characteristic patterns, and even different speakers show personal idiosyncrasies in their patterns which can be used for identification purposes (hence the term, 'voice-print', although these are not nearly so reliable as finger-prints). The use of this method for interpreting the voice sounds suffers from the limitation that the voices are usually weak and masked by other sounds, and when the audio-interpretation is uncertain the visible speech diagram is likely to be correspondingly ambiguous. (Voice-prints are also referred to as visible speech diagrams or speech spectrograms.)

D. Tape Recorder.

bias oscillator : a component in the tape recorder circuit which produces an A.C. signal of a standard frequency, which is combined with the signal to be recorded before this is fed to the recording head.

direct lead : a method of copying from one tape recorder to another by connecting the output of the one to the input of another by means of a suitable lead. This gives a better quality copy than is obtained via loudspeaker and microphone.

lead : a length of electrical cable fitted with suitable plugs or connectors, used to connect pieces of recording apparatus.

monitor : to listen to a recording while it is being made, or to set up suitable apparatus to record some relevant information during a recording.

rev. counter : a device on a tape recorder which indicates position on the tape by means of a digital display. It is normally driven from one of the tape spool holders, and this means that the rate at which the reading changes varies according to the amount of tape on the spool, the diameter of the spool, the thickness of the tape and so on. Thus in order to use the rev. counter as an effective index, one must keep to the same tape recorder and

spools. Similarly, the rev. counter readings from the original tape are very little use when one is playing a copy on another machine.

tape head: that part of the tape recorder at which the signal is imparted to the tape (recording head) or read off the tape (play-back head). In many cheaper recorders the same head is used for either function.

E. Waves, Radio and Electronics.

100 dB (decibels): an attenuation factor of 10^{10} (10,000,000,000). The attenuation is measured on a logarithmic scale, so that one Bel or 10_2 decibels represents a factor of 10; 20 decibels a factor of 10^2 or 100, 30 decibels 1000, and so on.

100 KHz, 10 GHz.: measures of frequency. 1 Hertz is a frequency of one cycle per second; 1 Kilo-Hertz (KHz) is 1000 cycles, 1 Giga-Hertz is 10^{12} cycles per second (one million million).

non-linear elements: components such as transistors, diodes, valves, etc., which do not conduct electricity in direct proportion (linear relation) to the voltage applied to them.

phantom circuit: a method of providing a third communication channel from two existing lines without extra wiring:

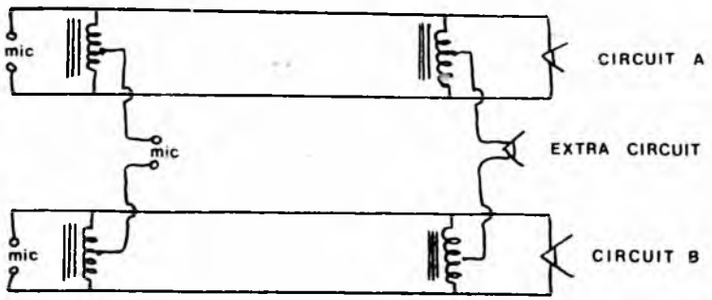

photo-cell: a device which generates an electric current when light falls on it.

radio-frequency filter: an electronic device which can be connected into a circuit to remove radio-frequency signals.

white noise: a collection of random signals of no particular preferred frequency. If listened to, white noise sounds a bit like waves on the beach.

Please see also the simple description of how a radio works and how some kinds of interference occur, which is given in Report 21 (pp.112 - 116).

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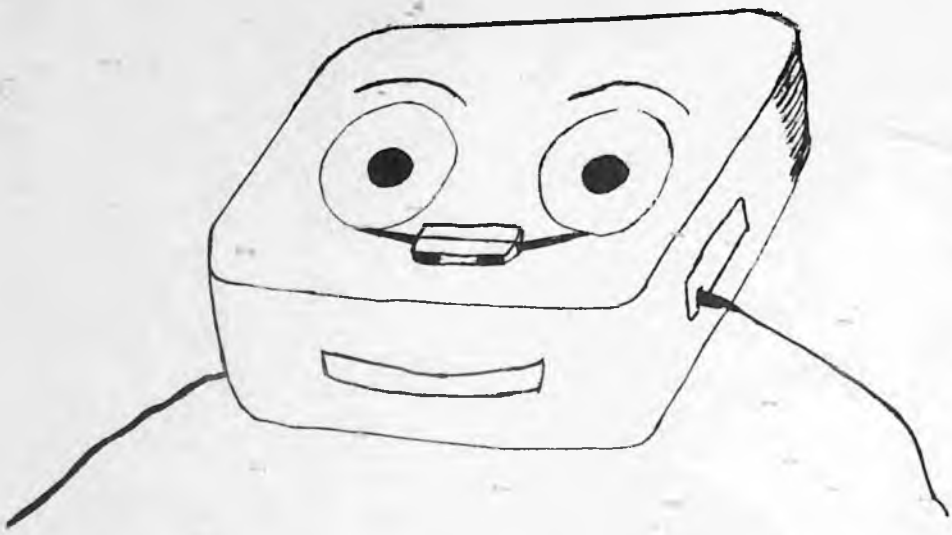
D. J. Ellis

The Mediumship of the Tape Recorder



An odd title, perhaps, but the 'voice phenomenon', first noted by Mr. Friedrich Jürgenson in Sweden in 1959, and later intensively studied by Dr. Konstantin Raudive in Germany, is an odd phenomenon. Its proponents claim that voices of dead people can be recorded on an ordinary tape recorder by various quite simple techniques, and say that the voices, which may speak in a foreign language or even a mixture of languages, can answer questions, make relevant remarks and give names and other information. They claim that virtually anyone, with patience and persistence, can produce the phenomenon himself, and assert that here at last is scientific validation of the Survival hypothesis.

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